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MEETING

STATE OF CALIFORNIA

INTEGRATED WASTE MANAGEMENT BOARD

MARKET DEVELOPMENT AND SUSTAINABILITY COMMITTEE

JOE SERNA JR., CalEPA HEADQUARTERS BUILDING

1001 I STREET

COASTAL HEARING ROOM

SACRAMENTO, California

TUESDAY, APRIL 14, 2009

11:06 A.M.

JAMES F. PETERS, CSR, RPR
CERTIFIED SHORTHAND REPORTER
LICENSE NUMBER 10063

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APPEARANCES

COMMITTEE MEMBERS

Mr. John Laird, Acting Chairperson

Ms. Margo Reid Brown

Ms. Carole Migden

BOARD MEMBERS

Ms. Sheila Kuehl

Ms. Rosalie Mul

STAFF

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Ms. Rubia Packard, Chief Deputy Director

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Ms. Kristina Gin, Executive Assistant

Mr. Albert Johnson

Ms. Pamela Kelley

Mr. Howard Levenson, Director, Sustainability Program

Mr. Jon Myers, Assistant Director

Ms. Stacey Patenaude

Mr. Darryl Petker

Mr. Ted Rauh, Director, Waste Compliance & Mitigation Program

Mr. Govindan Viswanathan

APPEARANCES CONTINUED

ALSO PRESENT

Dr. Ding Cheng, California State University, Chico

Mr. Bobbie Fanning, Walmart

Dr. Trish Foschi, San Francisco State University

Mr. Tony Limas, Granite Construction Incorporated

Dr. Malcolm Lewis, Constructive Technologies Group

Mr. Cody Menefee, Student, California State University Chico

Ms. Becky Quinlan

Mr. Will Semmes, California Department of General Services

Mr. Julian Storelli, Student, California State University, Chico

Ms. Kim Winston, Starbucks Coffee Company

INDEX

INDEX CONTINUED

PROCEEDINGS

ACTING CHAIRPERSON LAIRD: Call The Market Development and Sustainability Committee to order.

And ask for a roll call please.

EXECUTIVE ASSISTANT GIN: Laird?

ACTING CHAIRPERSON LAIRD: Here.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Here.

EXECUTIVE ASSISTANT GIN: Chair Brown?

COMMITTEE MEMBER BROWN: I'm on the phone.

ACTING CHAIRPERSON LAIRD: Thank you.

And Margo Reid Brown is on the phone for this first item.

And the agenda's on the back table, if anybody needs them. If anybody would like to speak to an item, there's speaker slips that you can take, and so that I can be aware of, with Kristina right over here.

And I would respectfully request that you turn off your cell phone and pagers.

Are there any ex partes that members haven't otherwise recorded?

Seeing none.

And I would like to welcome members Mulé and Kuehl. Thank you for being here today.

And I thought just before we go into the first

panel discussion, I'd just do a brief check on the schedule, because we're beginning now.

We have two panel presentations at the outset of the agenda. And we do have a presentation and photos at the end of the second one. And this is one of those wonderful committee rooms where the dais doesn't interact with the general public. And so I thought at the end of the second one, that would be the perfect time to break briefly for lunch and allow us to do those photos and then, you know, we'll shoot for roughly a half an hour for lunch.

We have at least one of the members that is trying to leave by 3 o'clock. And so we're going to do our best to move this.

And the agenda is really grouped in the two presentations, two loan items, two communications and outreach items, and then a list of tire items. And so I think those are -- that's the way the agenda breaks down in what we're trying to do today.

So with no further ado, we'll move on to agenda Item B, Board Item 10, of the Panel Discussion.

And, Howard.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Thank you, Mr. Chair. Good morning, Board members. I'm Howard Levenson with the Sustainability Program at the Board.

And this item is our third panel on the potential for strengthening California recyclables and commodities markets. And we're very excited to have a distinguished panel of speakers to interact with you and our stakeholders in the audience.

This is the third panel that we've had on this issue. I think as you're well aware, we started this back in December, partly in response to the worldwide drop in commodity prices for recyclable materials and the general economic downturn that we're still struggling through. And that exposed in one way the vulnerability of our own domestic diversion programs. It's a dependence on the export markets and the vagaries of the global economy.

So we are looking for insights from a variety of industry experts and other folks as to what the State, what the Board can do to help strengthen markets in general for recyclable commodities and to build our own domestic infrastructure for handling those kinds of materials, whether it be in California or certainly in the United States.

Our first panel consisted of collectors and processors and brokers. The second was the folks who handle the materials and actually convert them.

And now we have this third panel that represents market sector where there's a significance potential for

increased demand in the use of recycled materials and a demand for recycled content products.

I want to briefly introduce these folks. And then I think we just launch straight into their interactions with you.

To my right we have Bobbie Fanning, who's the Director of Solid Waste and Recycling for Environmental Services for WalMart; Malcolm Lewis, President for Constructive Technologies Group; the far right, Kim Winston, Government Affairs Manager for Starbucks Coffee; and three down from me, Tony Limas, Engineering Services Technical Support Specialist for Granite Construction.

We also will be joined shortly by Will Semmes, the Chief Deputy Director for the Department of General Services. And Will is on his way.

So I think with that brief introduction, you want to hear from these folks, not from me. Let me turn over to Bobbie for the first presentation, and then we'll go from there. And we look forward to a great discussion.

MR. FANNING: Thank you. And welcome for the opportunity to be here today.

I don't know that WalMart really needs an introduction. But let me give you a couple of -- is that better? -- let me give you a couple of facts that just kind of talks about the scale and scope of what we've --

the project that we've taken on, and that project being environmental sustainability.

As you know, we are the largest employer in the nation. We have over two million associates. We are the largest -- one of the largest single users of electricity. We have the largest private truck fleet. We give over 300 million a year to private mainly on the local community level. So that kind of gives you a feel for we're at. We hire -- and this number is mind boggling sometimes -- we hire 2,000 people a day on average. That kind of gives you a sense for the sale and scope of the things that's moving in WalMart.

Well, as the nation's largest employer, we were some years ago taking hits from a lot of different things. We were having a defensive posture in things like health care product sourcing, all the way down to environmental sustainability.

Well, then CEO Lee Scott took somewhat of an epiphany, if you will, and said, "Well, why are we doing this from a defensive posture when we really can turn this into something that makes us one of the most progressive, most competitive companies in the world?" So we adopted at that point very aggressive sustainability and environmental programs as well as many health care issues.

Well, to do that, one of the things that was made

very clear to us is -- and we've all started recycling some years ago, and we found that it really wasn't sustainable for many of us. So it was made very clear upfront that if we're going to do this, and we are going to do this, that things have to make good business sense. It's got to be from a very good business perspective.

We can't continue -- and being green is not sustainable if we continue to lose money. So how can we do this?

So we really came to an epiphany, if you will, as a company in, how can we do this?

So what we decided was there were really three main goals that we needed to accomplish as a company:

Number 1 is we wanted to be supplied 100 percent by renewable energy; number 2 is we wanted to create zero waste; and number 3 was we wanted to sell products that can serve natural resources and protected the environment.

So we have focused everything that we do as a company, all two million associates, in trying to do this.

As kind of a side line - and we'll talk about this later - probably the best thing that we ever did was put sustainability on everybody's job evaluations at the end of the year - what have you done for sustainability this year? We had some highly motivated people.

Well, what we did was say, "So how are we going

to do this? How are we going to take our business" -- and we're a very large business. Because when you tend to think of WalMart, you tend to think of stores and clubs. Well, some of the things that you don't know about WalMart is is that we have import warehouses, we have fitness centers, tennis centers, office buildings. We have return centers, distribution centers. We have material recovery facilities. We have recycle facilities. And the list goes on and on and on. It's not just about stores and clothe. But it's all those facilities that generally support our stores and clubs.

The other thing that became important to us right away was, is how far are we willing to go outside of our core business to do this? I mean our business is just to sell products at the front door of our stores and clubs. It was made clear to us right away that we will go as far outside of our core business as long as it makes good business sense to make sure that this type of program works.

So what we did is we took our entire business portfolio, if you will, and divided it into 14 distinct areas. Now, let me just give you an example. We have 14 areas of which we call sustainable value networks. Some of those we have a group that does nothing but global logistics. And we have a group that does alternative

fuels, packaging, food, agricultural, seafood, textiles, electronics, global greenhouse, and the list goes on. Each one of those groups is multi-disciplined and made up of everything from attorneys to subject matter experts. And their job is to take that part of the business that they're responsible for and make it as absolute sustainable as they possibly could. So that has worked very well for us.

So we've taken those three goals. And each one of these 14 groups now do that.

Now, what we discovered right away was that each group can't work in a silo by itself. So we're now down to 12 different groups, and because we've combined some of them. And you can imagine on the waste side, on the diversion side, if packaging doesn't do a good job changing packaging, then obviously we're not going to do a good job of recycling. So we've had to -- there's a lot of synergies and we've had to combine a lot of groups. So we feel like we're doing really well there.

One of the other things that we've got is WalMart has had some experience recycling in the past. And we found that that really wasn't working for us. We really needed to make it sustainable. So how are we going to do that?

So the question comes up, is WalMart recycling?

And the answer is "no" but the answer is "yes". Now, let me explain. We are recycling, but it's a tool for us. We're really into material management. If we truly want to do this, if we truly wanted to do it from what a good business sense perspective is, and we look at the last cycle analysis of everything, you know, how can we take what we are throwing away today, if you will, and put it on the shelf tomorrow as a product? So we're not really looking at what we do as recycling. We're looking at what we do as material management. And we've got some great wins. We can take today's PET containers and put it into something else that we're selling on the shelf tomorrow. And this applies to every part of our waste stream.

And if you'll look at WalMart's waste stream, it can be very difficult. We're not a small company with just a few items that we sell. We have a very broad category, everything from motor oils and antifreezes to milk in the shelves, if you can imagine. So trying to look at all those greater than 61,000 products and coming up with some best management practice for each of those has been difficult. And, frankly, we've got a long ways to go. But we feel like we've got some great wins.

Well, we decided that we really needed to change our business model. So if we were going to change our business model, why couldn't all the vendors that we use

change their business model also? So we now require -- and I don't know if you've heard of WalMart's Score Card. We actually rate our vendors on a score card by a number of issues. And when we decide who we do business with, sometimes that report card becomes a critical decision maker in helping us decide that.

Now, while WalMart has adopted a very aggressive sustainability plan, we also require all of those 60 some thousand vendors, if you will, to also have a plan and follow that plan.

The question comes up, "Are you guys leveraging these guys?" No, we're not leveraging these guys. But we feel like, if we're as committed to this process, then those companies that we deal with should also be as committed to the process that we are.

Well, we have also found that long-standing solutions in the way that we thought we did business has got to change. Everything from, you know, simple things like pouring milk down the drain, which used to be something that everybody did, to how do you now address those things from a more sustainable fashion?

How do you take ammunition that you sell and dispose of it sustainably? So we had all the special waste categories. How do you minimize haz-waste categories? How do you divert everything? What happens

to that one shoe that mysteriously appears every day, you don't know where the other shoe is? How do you dispose of those things sustainably? I mean with the waste stream the way we had, every day we learned something we didn't know yesterday. But we feel like we're doing a good thing.

So the other thing that we found is though -- and to change subjects a little bit -- is being an international company, we thought we could keep everything domestic and make it work. Did not work for us. We are an international company. We believe - and we've heard different numbers - we control, if you will, as much as 25 percent of the OCC in the U.S. We can't dump -- we have to deal with that on a global basis. We felt like if we dumped all of the OCC on the domestic market, what would that do the local markets? So we learned right away that we had an obligation to more the global market. If we truly were to be a sustainable company, we couldn't do it just domestically. We had to do it also globally. So that's what we've done.

If you've been to WalMart lately - just to give you some feel for the commitment we've got - and many people in this room probably know that - everything from two-sided receipts to photovoltaic freezer cases with LED lighting to we're mining water to use in irrigation

systems, we are taking organics out of the waste stream, we are -- the list goes on and on, just the breadth of things that we are doing. And, again, we're learning every day.

To give you an example of this is, when we deal with management in WalMart, how do we keep things sustainable? And let me toss out just a couple of numbers just to give you a feel for this.

Things that we found right away, if we changed our truck fleet by one mile per gallon, one mile per gallon on each truck, we saved over $52 million per year. We can do far better than that.

So is it important for us to be sustainable? Yes, it is. But it makes great financial sense for us to do it with the scale and the scope that we are.

We are -- a couple of other things that we do - and you may not know this - we are the largest purchaser of organic cotton in the world. We have bought, purchased, if you will, our own organic farms. We have found that sometimes if you want to truly make it sustainable, if you truly want to ensure that it's organic, you might want to own the farm. So we've done that in some cases.

You know, we're doing -- our seafood, everything is now certified.

Two-sided copy machines. And I mentioned paperless systems. When you issue 20 -- or when you issue two million checks every two weeks, imagine I how much paper that is. So we're trying to make those systems paperless and everything that we do.

You know, we've started car pooling. We've started biolocal programs. We've have drought-tolerant native vegetation, LED lighting, natural sunlight harvesting, heat recovery from refrigeration units. We have hybrid vehicles now, drain water harvesting, bioretentions.

And in the thing that I mentioned, and I'll mention it again, is if you really want to get far on your sustainability programs, put it on your management's annual evaluation. That will get you a long ways fast.

You know, we've also started something that we're really proud of, is our Feeding America Program. And those of you who are familiar Feeding AMERICA, we discovered that we were throwing away -- well, let me back up.

We looked at organics as somewhat of a total package. We as a company years ago had made a policy not to donate food because of a lot of liability reasons. We now worked that out. We are giving away millions of meals, if you will, on a monthly basis from material that

we were throwing away just a few short years ago. That has made a huge impact. And with the economy the way it is, it's a much greater impact right now. So we're doing things like that.

We've launched numerous zero waste projects. We are proud to say, and many of you are aware of this, that California is our test state. And we are trying to get California to zero waste hopefully by the end of the year if we can do that.

Now, we're -- as a company though, I can sit here and tell you that we are learning on a daily basis. We do not pretend to have all the answers. We keep making mistakes. We back up and we'll try something else. Because when you try to apply sustainability, environmental in a green world, if you will, to somebody at the scale and scope of WalMart, we're figuring that it's difficult but it's very rewarding.

Thank you.

ACTING CHAIRPERSON LAIRD: Thank you.

Mr. Lewis.

(Thereupon an overhead presentation was Presented as follows.)

DR. LEWIS: Good morning. I'm pleased to be with you. I'm Malcolm Lewis and I'm the President of CTG Energetics. I'm here today to talk about green buildings

and their impact on the recycled materials industry as it relates to the real estate.

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DR. LEWIS: I want to comment just briefly on my organization, and then mostly talk about the substantive issues of recycling and climate change and what can be done.

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DR. LEWIS: I'm informally representing the U.S. Green Building Council, which is the developer of the LEED Green Building Rating System. These are -- what I'm saying today are my personal opinions, but I am Chair of the LEED Technical Committee, which is responsible for formulating the future versions of LEED, and so I'm very interested in that.

I also represent my firm, which is one of the leading consulting firms based here in California in the area of green buildings and sustainability and climate change.

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DR. LEWIS: The LEED Green Building Rating System has had a huge impact on recycling. It began in 2001. And one of the five focus areas of the green building rating system is materials use. And it's really been a transformative market force, in our experience, for reuse

of materials and whole buildings, recycling of solid waste, using of -- specifying recycled materials and regionally sourced materials.

We've seen just an enormous amount of impact on local markets for creating whole new industry related to recycling and reuse of materials. And we think that's only going to grow at a very significant rate. I'll show you some of the rates of growth.

As we're evolving new versions of LEED, were also looking much harder at carbon emissions and mitigation strategies, and of course those impact materials as well, and the use of life cycle assessment to inform decisions, which is a key part of the materials aspect.

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DR. LEWIS: The number of LEED projects by state is higher in California, significantly, almost double, over any other state in the Union. And of course part of that is a reflection of the size of the economy here. But a lot of it is just due to the early adopter, environmentally oriented, high energy efficiency, solid waste, water conserving approach that the State takes. And certainly that's something to be very proud of.

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DR. LEWIS: The thing that's interesting is the rate of growth in LEED projects overall. There are over

18,000 projects currently registered under the LEED Green Building Rating System. This is just commercial. It doesn't count housing. And that's, you know, growing, as you can see from this graph, by leaps and bounds.

Interestingly, about a quarter of those projects are international projects. So we're having a global effect, not just a domestic effect.

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DR. LEWIS: And you can look at it another way. This is the number of projects -- the 18,000 that I mentioned are projects that have committed to go through the certification process. But of that, only about 2400 have actually made it all the way through the process, because of course a building project typically takes years to do.

And this includes both existing buildings and new buildings. Three-quarters of the projects that are in LEED currently are new buildings. But the rate of increase on existing buildings is growing significantly, which we think is very encouraging.

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DR. LEWIS: You can also look at it on the basis of square footage. And, again, it's quite a significant thing.

I think one key point to make as it relates to

the panel here is that three of the organizations that are here before you today - WalMart, Starbucks and the Department of General Services - are very committed to using the LEED rating system for their facilities, and DGS for its existing buildings as well.

DGS CHIEF DEPUTY DIRECTOR SEMMES: Thanks, Malcolm. I won't cancel that contract.

(Laughter.)

DR. LEWIS: Thank you, Will.

And I think the thing that's most interesting about that is that they're doing it out of -- you know, it's good business, as Bobbie said earlier. It's not just do-gooder kind of thing. It's something that saves energy, improves productivity, increases value, has many other rationales for doing it.

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DR. LEWIS: So what's happening is that the market value of green buildings is just growing by leaps and bounds. And we see it taking over the marketplace in due course.

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DR. LEWIS: The effect of that is significant savings in energy, carbon emissions, water use, and solid waste. And of course the thing that's really interesting in this context is that the solid waste reductions are the

highest of all of these categories that we're looking at. So it clearly is a very important element for the program that the Waste Board is trying to put forward.

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DR. LEWIS: The specific areas that are impacted by new construction green buildings have to do with recycling of solid waste, both during construction but then also during operations. And the point is that there are new construction certifications and existing building certifications, and it's really important that you deal with them both, because a building generates a lot of waste in the course of its operations that needs to be dealt with too. And that's equally true in the use and sourcing of recycled materials. Reuse of materials is more or less a one -- you know, a construction thing unless you can get the cradle type of thing that WalMart was talking about.

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DR. LEWIS: The evolving areas of LEED focus that we think are really important for this discussion have to do with climate change and life cycle assessment. There's a new version of LEED that's actually going to be implemented starting April 27th of this year called LEED 2009, which was completely revamped analytically to reflect a major emphasis on climate change impacts.

Virtually every credit in the LEED system was evaluated for its impact on climate change, among other things. And our goal is to expand that significantly more in the next version of LEED.

Likewise, the application of life-cycle assessment, which supports cradle-to-cradle kind of activities, is something that we've opened the door to in the new version of LEED, and that will be expanded as well.

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DR. LEWIS: I think the thing that's interesting from a carbon perspective is that buildings and the built environment are the number 1 source by sector, even bigger than transportation and industry. So clearly it's a very important thing to focus on. And this reflects the combination of the embodied energy in the buildings and the construction process and then the operations over all the years that the building operates.

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DR. LEWIS: But there are a number of issues that I think need to come up as it relates to the materials and climate change. We don't have good protocols for assessing the greenhouse gas emissions, particularly of recycled materials. We don't have good life cycle data on most of these materials' cycles, and that really needs to

be developed.

There are issues of, if you do mitigate emissions, who gets credit for those emissions? Is it part of the producer stream, the purchaser, et cetera?

And then the whole question of, as a building, how does it reflect in GHG mitigation, which is something that of course the CARB are still trying to figure out and develop in AB 32.

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DR. LEWIS: The way that works is that there are allocations for direct emissions, indirect emissions, and third party emissions; and different people own different aspects of them.

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DR. LEWIS: The direct emissions are traditionally what's happening at the building. But the indirect emissions, which are purchased energy and so forth, also go into it. So scope 1 could include materials purchased for construction. But scope 3, which is the ongoing use of materials and rejection of materials, is much more significant long term. And so all three of these need to be looked at from a carbon-budget perspective to get our arms around how to manage that.

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DR. LEWIS: One way to do that we think is to

enable building owners to have access to information on greenhouse gas emissions that helps them make good decisions. And part of that is things like access to information and doing reporting. The California Climate Action Registry now has a reporting protocol. But we'd like to be able to see it beefed up in terms of the information that the building operators have about the carbon impacts of all of their operating decisions besides just electricity and transportation.

Building performance labeling, which California is a leader in, I think is something that will make a big difference. And we all are well aware of the labeling that goes on any kind of food product that's available, like the cracker box shell. But we need to have labels that correspond to the same kinds of impacts that we care about on buildings, whether it's a LEED rating or ratings that include energy, carbon emissions, solid waste emissions, and so forth.

And I'll talk a little bit more about that in a second.

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DR. LEWIS: In the area of LEED for new construction, we've done an analysis that shows that, you know, almost a quarter of the credits have an impact on the life cycle performance of the building. And so

looking at resource, reuse and again providing data so decision makers can make informed decisions about this is really crucial.

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DR. LEWIS: So the question is, what can be done and what are some -- I want to suggest four things that I think are areas the Waste Board might think about.

The first is to promote the development of an LCA database for California materials, so that specifiers and decision makers can make informed decisions about the relative impacts of various materials options which supports the idea of going towards the cradle-to-cradle thing, which certainly is one of your strategic directives.

The second goal is supporting the continued development of the California Green Building Code to support sustainable practices in construction that would include materials.

The third is to create expanded emphasis on building operations from a building sustainability perspective, because of the impact of those kinds of waste streams.

And, finally, developing incentives for performance that achieves exemplary levels.

And I just -- let me just briefly elaborate on

each of these.

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DR. LEWIS: The LCA database is intended to support cradle-to-cradle decisions for both new materials and recycled materials. It would also enable LEED to have data that it could rely on for California projects to do LCA-based LEED credits.

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DR. LEWIS: In the Green Building Code area, the idea of setting minimum levels for construction waste diversion and recycled construction materials. I mean anything you can do to raise the floor in awareness, we found with LEED is really profound. And this is an opportunity I think to do that.

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DR. LEWIS: The third area on operations, I've talked about labeling. And in principle, it seems to me it's possible to think about some kind of labeling that included solid waste diversion reporting. There's clearly a lot of information needed before you could get to that point. But it's something you could think about and develop processes for both in terms of procurement and solid waste management.

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DR. LEWIS: The last area has to do with

incentives for performance that achieves exemplary levels. What we found is that LEED, because it's focusing on the top 25 percent of the marketplace, has a chance to kind of pilot practices that later on can become sort of the floor benchmark standard practice. And so what I'm thinking of in this context for materials is that you would establish reach goals that could now earn LEED credits, but at some future time become the basis for a code minimum, at which point they wouldn't get credits anymore. We're currently discussing doing this with the California Energy Commission for energy goals and are looking at how to possibly do it in the carbon areas as it relates to AB 32. And it seems perfectly logical that you might be able to do something similar with materials. So there's a cycle, you know, the code -- next code would be based on current developments that are piloted by LEED.

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DR. LEWIS: So those are my comments. And I appreciate your time this morning.

ACTING CHAIRPERSON LAIRD: Thank you very much.

And I know that there'll be questions. But I think we should all hold them until everybody presents.

MS. WINSTON: Good morning, Mr. Chair and esteemed Board members. My name is Kim Winston. I'm the Manager of Government Affairs for Starbucks Coffee

Company. It's a great pleasure to be with you today.

And I want to start with the end in mind and say that we fully endorse what the Board's attempting to do here in terms of stimulating new markets for recycled content. It's something that's near and dear to our heart. Certainly Malcolm has alluded to what we're doing. And Bobbie touched on some things that we're also doing as well. So they might have stole a little thunder, but I'll continue on here as it relates to what Starbucks is doing.

And I want to start by saying that we think probably the most important thing to stimulate this market is really to create demand. And that's exactly what Starbucks is doing as it relates to recycled content.

I want to start with our history. And for those of you who are not aware, that in 2001 Starbucks really lead a pioneering effort to reengineer the paper cup. And so what you see today in our stores is a cup that we spent four years in R&D development, which we actually moved through the FDA process in 2005 and got approval for that cup, that is a 10 percent post-consumer fiber cup. And that was really important to us. And I'll talk a little bit about where we're moving from there, but that's really where we started as it relates to recycled content.

By really moving forward with this cup, the innovation has enabled Starbucks to reduce our use of

virgin-free paper fiber by an estimated five million pounds annually. And that's extremely significant to us.

Starbucks has not only pioneered this innovation as it relates to the cup. We also conducted our work as an open-source technology. And what that means is we didn't patent this technology. We have made it available to any user that would like to incorporate this into their business. And so far we've at least seen Burger King and a few others have followed our lead in terms of using these cups.

In terms of what Malcolm alluded to is Starbucks in 2008 announced 13 really bold goals. And I'm not going to share all 13 of them, but I will focus on those that really relate to our environmental goals.

As I mentioned, they were 13 measurable goals. And the goal -- and our plan is to achieve these goals by 2015 through what we call our Shared Planet Protocol. And that protocol really focuses on three elements: 1) ethical sourcing of our coffees; 2) environmental stewardship; and then 3) active involvement in the communities.

And as I mentioned, for the purpose of this discussion I'm going to talk about really our Item No. 2, which is our environmental stewardship.

By 2015, Starbucks has promised to ensure that

100 percent of our cups are reusable or recyclable. And I want to say we're starting with ourselves. We have over 150,000 partners, as we call them - employees. And one of the things that we're doing internally is we're using our own cups. So that alone creates -- it generates, you know, a number of rewards for us. And I would share these statistics but they're startling how many cups that even our partners use. But, anyway, we're starting with ourselves. And we're retraining ourselves and we're modifying our own behaviors, and through setting examples about what we expect through our partners.

In addition, Starbucks has promised to offer in-store recycling. And that's front-of-the-house recycling. Sometimes you come into our stores -- and we haven't had consistently front-of-the-house recycling, but you're going to see more of that. And we're working on a really exciting program that we'll be unveiling later this year.

Also, Starbucks has promised to ensure that our stores are built green by 2010. And I use the term "green". Somebody said LEED certified. And they will be LEED certified in most cases. But outside of the U.S. there are other protocols. And so what our goal is is to ensure that those stores are built green and sustainable by 2010.

And to achieve some of those goals, of course recycled content is extremely important to achieving that.

So, what we've done as it relates to our internal policies is Starbucks back in about 2006, we established a company-wide environmental -- environmentally sensitive purchasing policies that were signed by our CEO. And so that guides our supply chain -- excuse me -- team in terms of sourcing materials, in making sure that our stores are built to those objectives.

Our policies include guidelines on post-consumer fiber content recyclability and items that minimize environmental impact. And these protocols have also -- are also including some incentives for our employees to really abide by some of these policies.

The other thing that -- as I mentioned, we're in inculcating all of this recycled content into our new stores. And Starbucks recently unveiled what -- I haven't visited it, but I understand is one of the most beautiful stores we have in the country in Seattle a couple of weeks ago at Pipe Place Market near our original store. And that store has incorporated all of our goals and objectives as it relates to recycled content. The flooring is made of all recycled materials, including some natural products. We used reclaimed materials for our serving bars, scrap leather -- excuse me. Pardon me.

Bobbie had indicated he had some shoes; and we're here to take those off your hands.

(Laughter.)

MS. WINSTON: Because we actually included scrap leather from the shoes and automobile factories into the back bar and some other elements of the bar face. And we're using recycled wine barrels and some other things for planters that decorate the store. So if you are in Seattle, we hope that you'll stop by and really look at what we've done there. But what that does -- what the store has done is it really sets the example of how we're going to build in the future.

And so we're really proud of what we've done there. And we continue to do more. If you ever visit Hillsboro, Oregon, you will see another store that is incorporated into their city hall actually - it's a part of the city hall - that is also a LEED certified store.

And so those are some examples of things that we're going to do. And you'll see more of that coming from Starbucks.

And last but not least, I want to talk about something that I'm most excited about, which we encourage any of you Board members to join us. On May 11th and 12th Starbucks is going to be hosting yet what we feel is another pioneering effort, to reengineer not only our hot

cup - we're looking at phase 2 of that - but also our cold cups. And we're calling this the Starbucks Cup Summit.

And so what that summit is going to do is -- Starbucks will host this summit. And what we're going to do is bring together a variety of stakeholders - NGOs, manufacturers, recyclers - and we're really going to look at that cradle-to-cradle life cycle of those products and how do we move to the next phase of product development there.

We hope that this summit is going to really drive innovation, it's going to bring our suppliers and other retailers in to -- stimulate them -- pardon me -- to really look at their products and to follow our lead in terms of hosting these types of summits.

So I'll close with just talking about what's in it for Starbucks. And I think that the two prior speakers have really touched upon all of the elements that are important to us. But certainly the motivating factor here is really to create a healthy and sustainable environment that reduces greenhouse gas, inspires positive and systematic change in human behavior, and really increases our ability to use more renewable sources as well as ultimately reducing costs for us.

And last but not least, we certainly want to stimulate a change in behavior in communities. By using

recycled content, by encouraging behavior in terms of cups and how we manage our personal behavior, we believe that this will lead to a much greener -- much more greener and sustainable environment for all.

So I want thank you all today for allowing us to present.

ACTING CHAIRPERSON LAIRD: Thank you very much.

Mr. Limas.

MR. LIMAS: Good morning.

I'm on now?

Good morning. Thank you for the opportunity to be here today.

See if I can through this. Excuse me. I'm getting over a little bit of a cold here.

I'd like to say a few words about my company to start out here.

In 2008, the Engineering Services News Record listed Granite Construction Company as the largest public sector contractor in the United States. And Granite Construction is also one of the largest manufacturers of construction materials in the United States.

ACTING CHAIRPERSON LAIRD: Where is it headquartered?

MR. LIMAS: Pardon me?

ACTING CHAIRPERSON LAIRD: Just kidding.

(Laughter.)

MR. LIMAS: Watsonville.

Our company has developed a green construction initiative that seeks to use innovative products, processes, methodologies to help us and our customers save energy, conserve natural resources, and accomplish more with fewer impacts on the environment.

Like Bobbie had noted, sustainability is also on our management annual evaluation score card.

As you might imagine, the products we manufacture are primarily used in the construction of roads, bridges, dams, airports and other infrastructure projects. In our construction materials business we current recycle asphalt, Portland Cement concrete, scrap tire rubber, asphalt shingles, and aggregates.

In our construction business we incorporate all the aforementioned recycled materials in our projects where allowed. In addition, we also recycle asphalt pavements in place.

Question: What is our company doing to increase procurement of recycled content products? Our products are perpetually recycled. In the past when roads and bridges no longer served their intended purpose, they were demolished and trucked to the nearest landfill. Today, these materials are diverted to construction material

producers such as ourselves for reuse in new construction materials.

We continue to work with state and local transportation agencies to develop construction specifications that will allow the inclusion of recycled materials.

Where recycled materials are currently allowed, we are working to raise the level of the -- or the amount of recycled material allowed in these products. For example, CalTrans current specifications allow up to 15 percent recycled asphalt concrete, or RAC as they call it, in their asphalt pavement products and the roads that we build. However, many states currently allow more than 50 percent recycled asphalt concrete in their asphalt pavement products.

As the industry co-chair for the CalTrans Industry RAC Products Subcommittee on Recycling, Granite Construction is actively pursuing changes to CalTrans standard specifications that would allow for at least 50 percent recycled materials in CalTrans asphalt pavement products.

Another perhaps more important effort revolves around the use of an emerging technology known as warm mix asphalt. Warm mix asphalt technology reduces the temperature at which asphalt concrete is produced by 50 to

100 degrees Fahrenheit.

Asphalt concrete production at lower temperatures has been shown to reduce energy consumption by approximately 25 percent, while at the same time reducing the production of carbon monoxide, carbon dioxide, and nitrogen oxide by approximately 10 percent.

Another important benefit of warm mix asphalt is the ability to easily incorporate higher amounts of reclaimed asphalt concrete into the asphalt concrete without making adjustments to the specified binder grade. Without getting too technical, I will just state that there's a significant technological benefit associated with this development which will help us to use more reclaimed asphalt in our mixes.

In an effort to increase the procurement and production of recycled materials, Granite is an active participant in the CalTrans Industry RAC Products Subcommittee on Warm Mix Asphalt. This committee is tasked with the development of a warm mix asphalt specifications for use in CalTrans specifications.

So what kind of procurement guidelines do we already have in place?

Granite currently has 20 sites permitted to accept construction and demolition debris in California. At last look this was the highest number of C&D sites by a

single company in the State.

In addition to this, we currently accept 100 percent asphaltic and Portland Cement concrete debris from our private and local public agency customers.

In accepting this material, we continue to increase our recycling capabilities year after year. For example, in 2007, Granite incorporated 486,000 tons of reclaimed asphalt into asphalt concrete and sold 870,000 tons of recycled aggregate base or fill material products.

Of the 7.2 million tons of asphalt pavement we produced in 2007, over 2.7 million tons contained reclaimed asphalt pavement.

What are the key driving factors that would lead our company to a decision to increase the use and procurement of recycled content products?

There are a number of factors that would lead us to increase the amount of material we produce for recycling:

First and foremost on our list would be the ability to increase the amount of recycled material in our construction products. Raising allowable recycled material thresholds will give contractors such as Granite the ability to conserve the natural resources used to produce construction products. A decrease in the use of raw materials equates to reductions in energy consumption

and related greenhouse gas emissions. This in turn helps our company reduce our dependence on foreign oil, while at the same time helping to address global warming.

Another driving factor would be the ability to receive a credit for producing materials containing recycled products and reducing greenhouse gas emissions. Our industry envisions a green roads program that provides credit similar to that employed in the LEED's Green Building Program. We would also support a green plants program that would recognize innovative technologies that reduce greenhouse gas emissions. Recognition could be in the form of credits which could be used to help permit future operations and continue to grow our business.

What is our company doing to stimulate market demand for recycled content products?

We are providing knowledge of transfer opportunities to our state and local public agency customers regarding the state of the art recycling and warm mix asphalt technologies.

As mentioned earlier, we are partnering with our state and local public agency customers to develop specifications that will allow for increased usage of recycled asphalt pavement, Portland Cement concrete, shingles, scrap tire rubber, and the use of warm mix asphalt technology.

And, lastly, we are currently procuring and installing warm mix asphalt technology equipment at our asphalt concrete production facilities nationwide.

What should the State be doing to increase the procurement of such products?

In recognizing their common interests in the area of recycling and global warming, State agencies should work together in conjunction with their industry partners to reduce restrictions on recycling and embrace the emergence of warm mix asphalt technology.

What else should be done to simulate recycling markets? Work with your industry partners in support of the Green Roads and Green Plants programs.

Thank you very much.

ACTING CHAIRPERSON LAIRD: Thank you very much.

Mr. Semmes. Welcome.

DGS CHIEF DEPUTY DIRECTOR SEMMES: Thank you, sir.

ACTING CHAIRPERSON LAIRD: I was going to tease you and ask if your transportation here was low bid.

(Laughter.)

DGS CHIEF DEPUTY DIRECTOR SEMMES: It was E-85 -- flex fuel car driven on E-85 and it cost 15,000 bucks. For the car, not the fuel.

ACTING CHAIRPERSON LAIRD: Good move.

Not too bad.

Does that conclude your testimony?

DGS CHIEF DEPUTY DIRECTOR SEMMES: I'm supposed to work in a biodiesel car. And I don't know, their biofuel -- and anti-biofuel guys will hate me, but whatever.

But, you know, that's -- thank you for mentioning that, because we have a real philosophical challenge at DGS. We are a control agency on one end, yet we're also meant to be a service agency on the other. And It's sort of schizophrenic because they really require two very different mentalities. One is really about control and supply and the other is really about facilitating productivity and creating demand.

And I think the Integrated Waste Management Board has a very interesting role in that. I was the beneficiary of and Integrated Waste Management Board grant back in 2005. Ms. Mulé was on the Board at that time and foolishly approved -- no, just kidding.

Thank you for approving it.

(Laughter.)

DGS CHIEF DEPUTY DIRECTOR SEMMES: We got $350,000 to buy recycled tire products like truck bed liners and car stops when I was at the California Conservation Corps. And they came in very handy. And

what we saw -- the reason we went out and got that is because we had a couple of champions in the CCC who knew Mark Leary. And Mark connected us with the opportunities. And so we applied for the grant and, thankfully, got it. And it saved the CCC a ton of money. And this is not a department that had a whole lot of extra funds to throw at anything.

And it also proved that some of these products work and some don't. And so we were able to give feedback to the industry on this. We felt like we got a really good value for the investment that the Waste Management Board made, and it gave a lot of benefit to another state agency. And I think when you think about DGS with -- we've got about 30 million square feet of facilities that are in the process of getting LEED certified, both new construction and existing buildings. Malcolm's helping us with some of those things, as is Gil Friend at Naturalogic and some other folks, to really understand where we are in that process.

But when you think about that kind of demand, we've got to figure out a way to talk to the architects and the construction management firms and the other people that do the work -- the contractors that do the work with us. Because when we have this philosophical challenge of balancing a control agency versus a service agency, you're

going to have what I call sort of the traditional method, which is the control. You're only allowed to buy a certain kind of thing, and it must have these particular attributes. You'll never win that battle because you will always find attributes that, as you get more educated on the particular subject, you find are not as desirable as they might have seemed or as benign.

So what I prefer - and I'm encouraging in DGS and I want to figure out how to get the Waste Management Board to leverage their strength with our -- with the people we do work with - to create the demand so we focus more on the service side. So what we're doing is developing a menu of cool products that we can show to Corrections or other client agencies and say, "Hey, check this out. This is a cool thing. We've used it" or "we like it" or "there might be an Integrated Waste Management Board grant that you could use to help you offset the initial higher cost from what you're doing today."

But I think that is the way that we're really going to see a revolution in State use. We can mandate all we want all day long. And most of the mandates we do are unfunded, so we have a lot of good people in the field scrambling to figure out how to actually implement a mandate with no money. We're doing that with water right now. And it turns out we're actually doing a great job

with it. But, boy, if we really knew some different sources of funding - thankfully the federal stimulus stuff is going to help us out, we think, in a big way - that kind of thing could be accelerated a great deal.

We also have to bring in the Department of Finance. And I don't know how to really have that conversation. But it's one that has to be begun and it has to be -- there has to be some nexus to keep it going. We started the conversation at least in this Administration with the Governor's Executive Order S-2004 requiring state buildings to be LEED Silver and to reduce our grid-based energy purchases 20 percent by 2015. That was battle royal with really what were these interests that said, "We have a single-year budget. Why are you bringing things to me that cost more money but are only going to save me money five or ten years from now? That doesn't fit with this single-year budget that we have in just a general philosophical way."

So we've been talking at length and heatedly with Finance for years on this stuff. They really have realized some fundamentals, that building green really doesn't cost you much, if anything, more in the first year budget, but that it saves you a ton in a lot of different ways.

We also have to bring into the conversation with

Finance and our clients the concept of productivity. That's something we really don't measure a great deal in government, and there are a lot of feelings about that.

But I want to bring your attention to a building we just did for CalTrans up in Marysville. It's the District 3 headquarters. It's the Leo Trombatore Building. He was an old director of the District 3 for CalTrans and a super guy, and was there for the dedication. And the building is LEED Silver. It was built in two years, which is a pretty good timeline for a State project. And it was within budget. And I don't believe there were many change orders, if there were any at all.

The building is so cool -- I was trying to figure out how I could get an office up there. I just don't know if the commute up to Marysville would be all that cool. But you're never farther than 37 feet away from a window. Everybody has day-lighting. The building was built with a lot of fly ash in the concrete. And recycled products.

I mean the list goes on and on, the really neat green innovations they did on this building, which is becoming standard practice for DGS on all of its construction projects. And we have about $4.2 billion worth of construction projects and repair projects in progress right now.

So you walk into this building, and you realize that the focus was something that it should be, which is it seems like it's focused on worker productivity. And that's something that I don't think we've thought about before. Like, you know, from the old sort of mentality of why would you put windows in a school. You won't want the kids looking out the window. You want them looking at the teacher. You know, that's sort of changing now and people get that.

But then you go into the bathroom and then they have urinals that use water, not waterless urinals. And you sort of say, "Well, hang on a second. This is supposed to be this green building. Why do you have those kinds of urinals and not waterless ones?" Well, you go and you sit down with a construction manager and the architect and you say, What's the deal?" And they say, "Well, we felt that we had a certain budget, and one thing cost more than another. There were trade-offs." Day-lighting was more important to them because productivity was our focus and water wasn't such an issue when we designed this because it happened to be in the winter when it was raining and nobody was talking about drought and it was really a main issue.

And that story about that building I think is indicative of the challenge that we have, that there are

always trade-offs. You know, my hemp socks are cooler than your organic cotton socks somehow, or my biodiesel's cooler than your plug-in hybrid. And that you'll never actually win that argument. So you have to -- I think the Integrated Waste Management Board is really in a unique position to help us and help other State agencies create the demand for recycled products and cool products and help us increase the list of products that are available for purchase by State agencies, not decrease them by trying to get bad attributes out.

Thank you.

ACTING CHAIRPERSON LAIRD: Thank you very much.

And thanks to all the panelists, because I think they were very good presentations.

And I wanted to just before recognizing other Committee members maybe ask a couple of questions. And just to follow-up.

One of the places you went was exactly where I was going to ask you a question. And it has to do with the fact that, on average, green buildings might be 2 to 4 percent more than non-green buildings, although that number's going down all the time. And yet in the operational costs and over the 30-year life of a building the operation costs are substantially lower. You identified that it was an issue with Finance and you said

you were starting to make progress.

What kind of progress are you making? Are there actually some tips or is it just with an understanding that that's the trade-off or --

DGS CHIEF DEPUTY DIRECTOR SEMMES: Well, I think what they understand is that we have an executive order that says that we are to build buildings in a certain way with a certain minimum criteria, this LEED Silver standard, and that we have to reduce our grid-based energy purchases a certain percent by a certain date.

And when you focus on that mandate, it's easier to have the conversation about where you're making the investments. Because if you don't make the investments in the right time and the right way and the right place, you're not going to meet those goals.

Finance respects those goals and is helping us figure out different ways to get to something.

That 2 to 4 percent, you know, our budget folks might not like this, but I challenge that, because who's ever really sat down and built a LEED Silver building and then built one that wasn't that's meant to be exactly the same and really compared costs? I don't know that if that's ever been done. Malcolm, you might know of some examples that maybe USGBC's done that or something. Maybe you don't. But the point is, the productivity gains from

employees and just working in such a cool environment like that CalTrans District 3 building, I mean I -- getting through dealing with HR on a day-to-day basis and all those kinds of things that we have to do just to get to 5 o'clock, so to speak, in State government sometimes is so rough that just being able to be in a really productive environment is worth whatever penny it costs. And I think Finance recognizes this. They just have this constraint that everybody's had for, you know, ad infinitum that we have a single-year budget. And we also have two separate budgets. We have a capital outlay budget and we have an operating budget.

So if you really wanted to get at the heart of this stuff, you'd start talking about different accounting practices. And I think that's a pretty heavy-duty conversation. But I am quite pleased with the way Finance's really come to the table with us to try to help us figure this out, because they get that we're not going to give up this bone that we've got in our jaws on meeting the Governor's Executive Order.

ACTING CHAIRPERSON LAIRD: Well, I appreciate that. And I know, I hammered them in a prior incarnation from another direction on exactly that issue. And many times the government agencies have to catch up with where the people are. And I know that, you know, waterless

urinals weren't even legalized in the Building Code till the last year or so.

Would you like to follow up? He was looking in your direction.

DR. LEWIS: If I may. To the point about the cost differential. The thing that's so fascinating about the impact of demand is that I have, you know, contractors and developers now that tell me that they can build a LEED Silver building for no cost increase over what conventional building would be. But part of the reason is that they're using an integrated design process, where, you know, if they can use day-lighting, it reduces the size of the air conditioning system and therefore there's a trade-off and so forth. And so as that comprehensive kind of delivery process permeates the whole AEC industry, the costs come down. And it's just another example of, through programs, creating demand, driving down the costs so that you can get a higher productivity, lower energy cost, and so forth.

ACTING CHAIRPERSON LAIRD: And, Dr. Lewis, I wanted to ask you a couple of questions. One is, is you were just talking about LEED certified. And as -- I kept carrying the bill on residential green buildings and trying to hammer the administration on that. And one of the push-backs from private interests during the hearing

is that the LEED certification process did not take into account unique factors of California, that it was designed outside of the State, and whether it was California wood or other things, it didn't take -- wouldn't take that into account. Would you comment on that, based on your experience.

DR. LEWIS: Yes. I mean I think it's true that one of the weaknesses of LEED is that it is a single national set of criteria. And one of the directions we hope to go in the next version of LEED is to have something that does respond to variations in localities, so that the availability of water or the cost of energy or the carbon content of water and energy, which are different in California than they are in Kansas, for example, would be reflected in the LEED rating.

So there definitely is a recognition that we need to refine and sort of reduce the resolution of the rating. But it's a big challenge technically. And that's one of the reasons that I was suggesting, for example, the Board supporting LCA database, because -- I mean there's very little good LCA data for the whole country. And because that's such a regional thing, to do what you're implying with your question, we need to have not only California but various other parts of the country covered by those kinds of data that can really support making good regional

decisions.

ACTING CHAIRPERSON LAIRD: And then one other question. And I know that today's panel was on strengthening the demand for recycled content materials. But at the same time, if you don't create large amounts of waste materials, you don't have to create the demand for them. And one of the things about construction that was intriguing to me is when I was in the Legislature, there was a statistic that every newly constructed house in California generates three to five tons of waste during the course of that construction.

And then in my first committee meeting here, we had all the municipalities talking about their waste goals and how they'd done of diverting waste. And there were people that stood at the podium from municipalities and said, "But we had a rough time in this year's because, you remember, those were high construction years and we were taking all the excess waste from construction." And so suddenly I was seeing exactly what we had been hearing when people were talking about their ability to do that.

And you went by it. You had a presentation that touched on a lot of things and you went by it quickly.

What are some of the specifics about how contractors could lower or eliminate the waste during construction? I mean what are some of the things that

people were doing to address that issue?

DR. LEWIS: Well, there are great practices for doing construction waste recycling, where you separate concrete from metals, from timber, from drywall, for example. And there are markets being created for each of those areas of product. The asphalt and concrete goes into riprap and the metals go into recycled aluminum and steel and so forth.

And so -- and we've seen, for example, in the City of Las Vegas there is an enormous construction project that's going on that is completely LEED certified, and they have created a construction waste diversion industry there that didn't exist before because of the scale of this project.

So I think that there are a number of well understood practices for doing that. And the cool thing is that it then becomes -- instead of a cost center for waste disposal, it becomes a profit center for the project. So, you know, again this idea of integration, if you think of it in the right terms, it can actually lower costs.

ACTING CHAIRPERSON LAIRD: And it's really probably on a pilot basis creating some markets or incentives. And once the market develops and people understand, it becomes more of a standard practice in

construction.

DR. LEWIS: You know, it is. And let me just give you one example.

A few years ago, I made the point that it was -- if you wanted to specify drywall, gypsum board that had recycled content in it, it was very expensive to do, because most of the drywall available had virgin gypsum in it. Today if you wanted to specify drywall that had virgin gypsum in it, it would be an extensive item because the industry has completely flipped to where the recycling content of gypsum is a standard part of the practice. And that's what we need to achieve in product after product after product. And it's your -- that's why I suggested this idea of building a base of minimum construction waste diversion and recycling use, because you can help build the industry and get awareness in the construction and design industry by setting a standard that's achievable but, you know, it's not anywhere near -- I mean we have projects that are recycling 99 percent of the construction debris from a project.

And yet there are other -- but it's an optional credit. Nobody has to do that. They can choose that or some other credit in LEED. And if you've put a floor under it through the building code, then everybody would at least do -- well, pick a number -- 20 percent or

something and it would help move everybody forward.

ACTING CHAIRPERSON LAIRD: Thank you. I found that exchange really helpful.

Other questions of members?

Sheila.

BOARD MEMBER KUEHL: Thank you, Mr. Chair. I had a question of Mr. Fanning.

Since we're going to call you Dr. Lewis, I think we'll probably have to call everybody by their last name. I'm a lawyer. You know doctor stuff always -- anyway.

You were talking about affecting the behavior of vendors because you're such a huge purchaser. But you said, "We were asked are we leveraging our vendors, and we said no." But I guess -- my question is, how do you balance -- people want to go in and buy, you know, Tide or whatever, and let's say they're not so good about packaging and they're not so good about, I don't know, phosphate or whatever. Somebody might have a better score based on how you're scoring your vendors now.

How do you balance that in terms of kind of demand and adherence to your score?

MR. FANNING: That is a tough question.

At this point in time what we've done is we are at the encouraging phase. We encourage you to meet this set of guidelines, and that it could mean extra business

to you if you do this.

We do see a day, to address your issue, where, okay, the honeymoon is over, if you will. You have not met what we felt like were good environmental sustainability goals. Now it's reckoning time. That day's not here yet, But we do see that coming.

BOARD MEMBER KUEHL: Thank you.

Dr. Lewis, I had a question about the LCA database issue that you were just talking about.

The notion of the database is that for -- as you said, for California materials. That's what your presentation listed on the bullet point. So the question is, how much do certain materials emit? Or what is the -- the first half of the question is, what are we ranking in the database?

DR. LEWIS: Well, you're looking at a whole bunch of environmental impact criteria, of which CARB -- greenhouse gas emissions are one. But there's energy use. There are other pollutant emissions.

BOARD MEMBER KUEHL: In the construction of them or the --

DR. LEWIS: Everything from the initial mining of a material, the fabric -- you know, milling, fabrication, delivery, use, and then ultimately disposal and so forth. So the whole idea is there are ways to measure

analytically what the environmental impacts are of a given product at each stage of its use, cradle to either grave or, ideally, cradle to cradle.

And that -- but right now that data is very hard to come by and -- I mean it's just not --

BOARD MEMBER KUEHL: Does it exist in its disparate and not drawn together? Is it contentious in each one of its segments? I mean somebody would say, "No, it doesn't emitted this much," right? "We've got a study right here"?

DR. LEWIS: Well, I think there are -- there is in fact not enough good data to document. And it's a process that's going to take years.

And the point about the honeymoon, I think what we want to do is send a long-term message to industry to help generate a path. You certainly don't want do anything Draconian, saying starting tomorrow you've got to do something or other. We can't afford it. And it's not fair. But if you can set a path and say, "We need to start developing these kinds of data" -- you know, and the analogy back to the cracker box. I mean it took the food industry a long time to develop all of that information. And now it's standard practice.

And if it -- you know, I don't know what the right number of years is. But it doesn't need to happen

overnight, but it does need to happen. And so that's the goal.

BOARD MEMBER KUEHL: If have a question for Ms. Winston about the -- you know, I'm a Starbucks fanatic and so I see a whole lot of cups going into the trash, you know, the plastic ones, the paper ones, the hot holder cardboard things, and virtually everything. Is there a goal for -- I mean I know it's kind of tough times. I know some of them are closing, and everybody's thinking about how we could do this. But is there a goal for recycling at the -- sort of as the whole chain or at least in the United States?

MS. WINSTON: Yes, absolutely. As I mentioned during our speech -- or my talk, I should say, that by 2010, we're really looking at having that front -- what we call front-of-the-house recycling, which would have those waste streams available so you could separate your cup, your lid from -- you know, the cup from the plastic cups and the straws and things like that. And so the goal is to have that installed in most stores.

And in the coming years, I will say that we are starting with -- I live in San Francisco. I see Board Member Migden. I would just say I live in the Bay Area and I work in San Francisco. And so we're really starting to unveil that. We're going to do some tests in a couple

cities, and San Francisco will be one of those - and we're looking at another international city - where we're going to implement some of these front-of-the-house strategies and hopefully see how those work. And then we'll expand those to other stores.

So absolutely, we're on board --

BOARD MEMBER KUEHL: So 2010 for all stores, is that what you're saying, or 2010 for the test?

MS. WINSTON: The goal is to start a program that can be implemented by that timeframe. So we're starting in '09 to really test that.

As you know, our stores vary in size. Also, as you know, different communities vary in their policies around recyclables. So, you know, we, being a national and an international company, we have to be sensitive to, you know, those local recycling programs. But the goal being that there will be some form of customer-available recycling at front of the house in most of our stores.

BOARD MEMBER KUEHL: Well, I guess that's another question about, does it depend - and I guess the same for WalMart, or maybe you do this all yourselves - on the community, what they take?

MS. WINSTON: Yes.

BOARD MEMBER KUEHL: Kind of what they recycle? And they tell you -- because I mean, you know, sort of the

commercial aspect of it if -- do commercial enterprises pay for their own trash collection and therefore they don't have to depend so much? Because it so varies by jurisdiction in terms of whether they'll take this kind of plastic or just that kind of plastic and what they do.

MS. WINSTON: I see Board Member Mulé, who's quite familiar with this subject, I'm sure.

It does vary by community and it varies by your hauler and what your contract is established to -- in terms of recyclables. So it does vary, and that's what makes it difficult for companies like Starbucks and WalMart and others to -- or national retailers to make sure that, you know, the product complies from city to city, you know, county to county, state to state. And so it is challenging. And one of the things that I didn't talk about was really hoping that the Board can maybe establish, you know, some very progressive policy that cities can model, so that national retailers like WalMart, Starbucks and others can consistently recycle in communities. It is challenging.

BOARD MEMBER KUEHL: I have one last question, Mr. Chairman, to Will, whom I can call by his first name, I think.

I don't know that I agree with you, you won't be surprised to hear, that incentives are better than

control.

DGS CHIEF DEPUTY DIRECTOR SEMMES: Well, especially that it has the report due every day, doesn't it --

BOARD MEMBER KUEHL: Well, I mean, you know, just looking at my legislative record, you know how I'm in love with control.

DGS CHIEF DEPUTY DIRECTOR SEMMES: I'm still doing the reports for those.

(Laughter.)

BOARD MEMBER KUEHL: But I mean it was interesting -- it was interesting that you said, "Yeah, but, you know, the Governor told us what to do. And so consequently that gave us a great incentive." That's kind of control, isn't it?

DGS CHIEF DEPUTY DIRECTOR SEMMES: Thank you. It is. And that's that balance. I like the method where we are going out there and creating demand through education and interest. That may not be fast enough to reduce global warming or to deal with a landfill problem or whatever it might be. So those controls still have to be there. And that's -- it's almost bipolar. But really it is truly a balance between control and service.

And I think that the Integrated Waste Management Board has a role more so on that service side, which is

creating that demand, developing the interest in recycled-containing -- recycled-material containing products. But at the same time, if the Waste Management Board is sort of seeing the lack of something happening -- like low oil prices have affected the recycled carpet market in a big way. There are three manufacturers -- three recyclers in California really; two are sort of shut down and a third's kind of close. So you have to look at it and say, "Well, should we do a recycling fee on carpet like we do for bottles and cans?" You know, that's a control and a market signal that might be appropriate for the --

BOARD MEMBER KUEHL: All right. But I was thinking more of what you said about, well, you know, we want Corrections to think, "Well, this is a really cool product."

DGS CHIEF DEPUTY DIRECTOR SEMMES: Right.

BOARD MEMBER KUEHL: Okay. I've met with Corrections. They're never going to say, "Oh, this is a really cool product," you know.

(Laughter.)

BOARD MEMBER KUEHL: But if we tell them, okay, recycled orange jumpsuits or whatever, you're just going to buy those.

(Laughter.)

DGS CHIEF DEPUTY DIRECTOR SEMMES: Absolutely. There are different ways to skin that cat.

So Corrections had a severe problem where prisoners were flushing sheets down the toilets -- their bed sheets down the toilets, just for kicks I guess. And they were able to flush the toilets enough that they could get a whole sheet down into the system and it would be a disaster for Corrections. It happened all over all the prisons all the time.

So what they did is they -- Harry Franey managed this over at Corrections, who's sort of their green guru guy. He got these flush control valves. You can only flush them a certain number of times per larger period of time, which made it so they could only get a sheet about halfway through before somebody walked by and busted them. So they stopped having sheets get flushed down the toilets. That saved them billions of gallons of water.

So, when you really think about it, there are other ways to look at this, not just with a control mechanism. They needed to stop a severe --

BOARD MEMBER KUEHL: You mean, "How can we solve your problem and..."

DGS CHIEF DEPUTY DIRECTOR SEMMES: Right.

BOARD MEMBER KUEHL: Okay.

DGS CHIEF DEPUTY DIRECTOR SEMMES: And that's the

issue that I brought up with the CalTrans District 3 building. They -- productivity and day-lighting was their real big thing. So they wanted to put their money into that. And they didn't put their money into waterless urinals because they don't pay for water there, so, you know, they didn't really see even a cost benefit to doing. Even though we know it's the right thing to do, and what we are going to do with that building, when a valve breaks in one of those toilets, we're going to just replace the whole thing with the waterless urinal and not just replace the valve. Or we'll use a really efficient valve when we change it in some way.

So I don't know. I just am -- I'm less inclined to go for the control. But you definitely need to be able to have the stick there when you need it.

BOARD MEMBER KUEHL: Thank you, Mr. Chairman.

ACTING CHAIRPERSON LAIRD: Thank you.

Other questions?

Carole.

COMMITTEE MEMBER MIGDEN: I just want to make a comment, to say I'm interested in all the General Services' analogies have to do with toilets and flushless urinals and very astute psychiatric terms that range from bipolars and to schizophrenia. So I'm interested to be edified by the vast knowledge contained therein by the

Department's perspective on what I guess is termed overall as "dysfunctional".

But I'm struck by all of you -- and we appreciate good corporate partners, for sure. But it also seems that California is making a good business practice to be green. And I'm waiting for the Green McBurger, you know, and not, you know, mean they don't go buy coffee over by your place with the green burger.

So, one is that's commendable and corporate cooperation also does follow suit with profit and demand and we have been successful as the society here on educating Californians to demand reuse. So we appreciate making those accommodations. We know it's not truly altruistic always and that it's very much in keeping with the public -- what the public expectation is now.

And can we in California - and I'm intrigued by the question of national or international models - create something that could be perpetrated in other parts of the country? And perhaps we should do more about demand. And I agree with sanctions. You know, Board Member Kuehl talks about whether there should be carrots and incentives or punishments or how do you get compliance? And I'm struck by the fact that we often saddle communities with unfunded mandates that make it impossible to comply even when there's good intention, which is even more

demoralizing and wanting to be a corporate sponsor.

So I hope that we find the balance, that doesn't just say to everyone, "You're not doing it correctly." But we can assist -- and I go back to the different points of view that San Francisco County may have from Ridgecrest, which was a community we heard of a couple weeks ago.

And, lastly, perhaps there would never be resistance -- and it was Board Member Kuehl or Mulé that said, maybe despite whatever the local jurisdictions ask for, if the municipalities haven't kept pace, we can still begin to insist upon some corporate standards that educate municipalities. So that for good business practice anyway a standard formula works better than, I would think, selective ones in different locales.

So I appreciate being edified by the advanced practices. And I hope we'll continue to do more about demanding from all of our business leaders a way to lead the way for us in our local communities.

Thank you, Mr. Chairman.

ACTING CHAIRPERSON LAIRD: Thank you.

And some time I'll edify you about the green burgers in Santa Cruz.

BOARD MEMBER KUEHL: Okay.

(Laughter.)

ACTING CHAIRPERSON LAIRD: Mr. Mulé.

BOARD MEMBER MULÉ: Thank you, Mr. Chair.

First of all, I just would like to thank all of you for being here today. This panel in particular I think was very, very informative to us in terms of finding out what is being done out there, not only here in California but throughout the country. And I really do look at you as leaders in your fields.

And, Will, I know that you are passionate about what you do. And I am so glad you're over at DGS, because it's going to take folks like you working in government to make the changes that we all are here to do. So I commend you for fighting the fight every day. Just keep going.

I do have a few questions. But just to throw out a question to everybody in general. You did give us some suggestions on what we could do. But I guess I'm asking you, here we sit as -- as Will put it, we're somewhat of a schizophrenic agency too, because we regulate, but then we -- as we're sitting here today, we're trying to create -- we're trying to help create that market demand, not only here in California but throughout the country.

And so my question to all of you - and if you'd like, you can answer - is what do you feel or what do you think that we can do to help you with creating the market demand? I mean, Tony, you talked about working with

CalTrans. We have been -- we've met with CalTrans in the past. We try to nudge them along in utilizing recycled content materials in their road paving. We try to encourage them to again up that percentage. We have -- there have been bills introduced which have died because I think there's just some resistance to doing that.

So my question basically to everybody is, is what can you share with us -- what can we do as a regulatory agency or as a market development agency here at the State level to help simulate market demand? And you can answer today if you'd like. Or you can think about it and come back and talk with us. Because the other point I want to make before I close is that I don't see this meeting -- or this panel as the end of the dialogue. I see this as the beginning of the dialogue. And I really do hope that all of you will continue to share the dialogue with us.

Howard Levenson is our Program Chief for Sustainability and Market Development. And you're welcome to share your information with him, with any of us. But I really do -- that's what I am asking of you today, is that you do continue the dialogue with us.

So if you'd like, if anybody has any answers to the question I posed, I'd be happy to hear the answers.

Otherwise, again, I just want to thank you all for being here.

Bobbie.

MR. FANNING: I think one of the issues that we deal with -- I mean with the normal and what we would call traditional recycles, demand is going to help a lot. But we've moved passed that a little bit in the sense that we truly utilize global markets in everything to deal with the volumes and the types of material that we generate.

One of the things that continues to be a problem for us - and I think I alluded to it earlier - was our problematic waste. There's those items that we deal with in the stores and clubs, and I think I mentioned this one earlier, we have ammunition, we have -- of course you've got CFLs, you have E-waste, you have all those kinds of things. We certainly recognize the need to do something about those and would like to do something about those, but we keep running into roadblocks in every direction. You know, some help, some guidance, some direction, and some assistance in trying to address those things would allow us to proactively go out and address those kind of problematic waste items.

BOARD MEMBER MULÉ: Thank you.

Malcolm.

DR. LEWIS: One of the arguments that the Department of Finance makes is this question of cost effectiveness. And it seems to me that better information

about the real cost of a product that includes disposal and environmental impact and so forth would help you make that calculation more meaningful. I mean the first cost is not the only cost that society sees. And so somehow -- you know, I don't know how -- I'm not suggesting a particular methodology. But thinking in a somewhat larger timeframe I think could be helpful for that discussion.

BOARD MEMBER MULÉ: Thank you.

MR. LIMAS: Yeah, I'm not sure of the relationship between the Integrated Waste Management Board and the other State agencies, so I'm not sure how you can really help us. But on the issue of green roads program or a green plants program, we'll be talking to probably Air Resources Board, those folks. If you hear of those efforts, I guess any support you can give to say, "Yeah, this is a good thing. What's the objective? We're going to reduce greenhouse gas? We're going to recycle more? We're for that. How can we work with these folks to make that happen?"

BOARD MEMBER MULÉ: Thank you.

MS. WINSTON: Well, first of all, I think what you're doing today is exactly what we're looking for, is this interaction and engagement with you as regulators to determine best practices. So thank you for what you've done today, and we hope we'll continue this dialogue.

I would only say that certainly looking at a variety of metrics and not creating kind of one-size-fits-all kind of policy as it relates to compliance, that would probably be the most helpful for us. When we look at some of our -- when we measure our environmental footprint, we do it from a global perspective. And I say that in that there are some cities that have created certain policies that mandate certain recyclable products. But when you look across, the energy usage that goes into those products is a little different. And we look at not only what happens locally but what happens globally when you decide to go with corn-based products if that's the standard for your recyclable, because there are some communities around the globe where corn is a staple. And so by promoting a policy that suggests that the only standards that you can take or the only strategy you can make to meet this objective is, for example, a corn-based product, well, that doesn't consider the impacts to people that live outside of the U.S. And so for us that's a challenge.

And so I would just say that that's one example where I think this Board can really set some great, you know, leadership and policy on how we measure recyclables and recycled content.

BOARD MEMBER MULÉ: Great.

DGS CHIEF DEPUTY DIRECTOR SEMMES: If I may, just a final piece, that with all of the federal stimulus money coming into California, may I just say to Integrated Waste Management Board, carpe diem. I mean let's put some deals together. Let's find some opportunities. Let's get some things done. Let's get some stuff installed in State facilities that have high recycled content. Or whatever is of interest to the Board, we know we can put these things together. I mean I just learned of something today on the asphalt. Where we build roads in State facilities that aren't public roads but they're on State facilities, do we even know about this asphalt that they're working on? I mean maybe our folks do. But it's such a detail in a construction project that at the executive level we just wouldn't know about that.

But I'm now going to make that connection if it hasn't been made already. And I think there are tons of those connections that the Board could help us make in State government that I think would really be able to help us leverage the money that you all have with federal stimulus funds to really do some neat things.

Thank you.

BOARD MEMBER MULÉ: Thank you all and thank you Mr. Chair.

ACTING CHAIRPERSON LAIRD: And let me just echo,

I appreciate this panel, I appreciate you all being here today. And this was a great discussion. I think it informed everybody that listened, and it is the kind of interaction that we do want to have and continue to have and just will consider today a weigh station on just continuing our work on this. And if you had told me when I entered the Legislature six and a half years ago that I would be sitting with Starbucks and Granite Construction and WalMart talking about just how sustainable -- and DGS for that matter --

(Laughter.)

ACTING CHAIRPERSON LAIRD: -- how sustainable they were, I would have laughed you out of the room. And so I think just the fact that we were having this discussion today is incredible progress. And so I just speak, I'm sure, on behalf of the Committee and the Board and saying we just really look forward to continuing to carry this forward.

So thank you for the panel today.

(Applause.)

ACTING CHAIRPERSON LAIRD: And we have one other item we were going to try to do before we took the lunch break, and it was the presentation under Item C.

Howard.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: If we

can have just a minute so we can sort of let folks get up and get our Chico State folks here.

But I do want to thank the panel as well while they're getting up.

And I think you all heard a lot of great ideas. There's no magic bullets to market development, but it's product by product and material by material. And a lot of the things that we heard about rating systems and protocols and cost savings, we'll be doing follow-ups with them, we'll be meeting with -- we've met with Will a couple times already, and I think we can do more on that.

So we've got a lot to do.

Okay. We're ready to go with our second item, which is Board Item 11. This is a presentation by Chico State students on an engineering project that they've done that's resulted really from the Board's own investments in developing curriculum, a contract that we had with Chico State. And I think this is -- although we didn't really talk about this in the last panel, this is market development, getting curriculum developed, getting our engineering students to be able to take a look at these kinds of materials and work on projects that show -- either lead to specifications or demonstrations of their viability. So I think this is a great segue to a focused example of the kinds of work that the Board has done on

many fronts to support these kinds of efforts. And we're really pleased to have Chico State here.

In 2007, the Board contracted with Cal State University at Chico to develop a curriculum on the use of rubberized asphalt concrete and tire-derived aggregate and other kinds of materials. And today we want to highlight this and have some presentations by the Chico State students, also highlighting some of the actual field projects.

I'm going to turn it over to Albert Johnson, who's our CIWMB staffer who's been in charge of this contract. Albert's going to briefly introduce the folks from Chico. And then, you know, we'll hear from this presentation. I think you'll be very pleased with the results that you're going to see and the kind of work that these gentlemen have been doing over the last few years.

MR. JOHNSON: Good afternoon, Chairman Laird, Committee members and Board members present.

This contract I feel has been very successful in developing the curricula for our future engineering students that will show them the benefits of reusing waste tires as an engineering material.

This knowledge will be carried with them the rest of their careers and should in the future reduce the number -- increase rather the number of tires used in

tire-derived aggregate and rubberized asphalt concrete projects.

I'll introduce Professor Cheng from the Civil Engineering Department at CSU Chico. He's going to go over briefly everything we've accomplished with this contract. And then the students will speak. We have here Cody Menefee and Julian Storelli.

So at this point I'll turn it over to Dr. Cheng and we'll keep it going.

(Thereupon an overhead presentation was Presented as follows.)

DR. CHENG: Thank you, Albert.

How do we proceed to the next slide?

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DR. CHENG: Thank you very much.

Good afternoon. And thank you, Chairman, thank you Board and Committee for this wonderful opportunity for this project.

The objective of this project is to prepare and educate engineers for the 21st century on how to utilize with tires in civil engineering application. The project team includes contract managers from CIWMB, Chico State faculties, and the California Pavement Preservation Center at Chico State.

This project is on schedule and under budget.

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DR. CHENG: The project includes two major portions. The first major portion is on the continuing education of professionals. Second one is -- which is the larger one, is to educate university students.

So we developed curriculum and also we delivered those at Chico State. And then we conducted the professor training workshops to disseminate the information to other universities in California.

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DR. CHENG: For the professional side, we developed presentations turnings and then we delivered at some workshops and conferences which include like California Asphalt Paving Association, also California Maintenance Superintendent Association, Transportation Resource Board meeting at Washington DC, American Society for Engineering Educators. And we will also deliver our workshops at APWA, American Public Works Association. And another one will be coming up in May for the Rubber-Modified Asphalt Conference.

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DR. CHENG: The Projects was originally kind of thinking about deliver only one curriculum in the solid waste management class. But later on we find out it will be more efficient if we can touch upon, you know, multiple

disciplines, because utilizing waste tires is really multi-discipline things in civil engineering, including transportation, structural, geotechnical engineering, and environment. So we task for each discipline with the opportunity modules and classes. For example, in transportation engineering class we have a -- we have a module in classes for transportation class and also asphalt paving material class.

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DR. CHENG: The materials were developed also that delivered first as a trial run in Chico State. So we teach classes you can see in those classes, including freshman class "Introduction to Civil Engineering Design, and then went to junior classes like, you know, "Strengths of Materials, Structural Testing Lab, Contracts and specs." And then eventually in the senior level classes including "Soil Mechanics, Reinforced Concrete Design, Environmental Engineering Design, Transportation Engineering, Solid Waste Management, Foundations, and Asphalt Paving Material" classes.

Those classes teaching materials are on line. There's a, you know, website, people can log in and download those teaching materials. And they also included some students' sample works and references.

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DR. CHENG: And then we went on to kind of disseminate the information out, and we conducted professional training workshops in three different locations: Sacramento, Pomona, and San Luis Obispo. About 30 professors from 15 different universities, not only -- when we conducted, we found out that not only California State University interested in this, but also some private universities like Stanford, and community college, and UC system like UC Davis, UC Berkeley and UC Irvine, they also interested and attended workshops. So they were very successful. We got good feedback on them.

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DR. CHENG: The next I want to introduce you to kind of like a student presentation. It's in my transportation engineering class. And students formed groups and then they work on, you know, student assignments. The following will be two students, they're going to give you a presentation on their assignment. They formed a hypothetical company and worked on hypothetical projects.

So next will be Cody and Julian.

ACTING CHAIRPERSON LAIRD: Welcome.

MR. STORELLI: Good afternoon. My name's Julian Storelli. And Cody and I are going to present an example student design project incorporating the use of waste

tires as a construction material.

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MR. STORELLI: We are from UCS, Environmental Construction Services, our hypothetical consulting forum. And we're going to present a proposed hypothetical expansion of Highway 99. And our design incorporates the use of waste tire products as various construction materials.

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MR. STORELLI: In California alone, an estimated 40.2 million waste tires are generated each year. About 30 million of these tires are diverted from landfills to constructive uses such as reuse, retreading, civil engineering applications, and as an energy source. This leaves about 10 million tires to be disposed of each year.

It is necessary to properly manage the vast amounts of waste tires produced each year to avoid the significant threats potentially posed to both the public health and the environment.

We at UCS understand both the problems posed by the generations of waste tires and the benefits of using waste tires in civil engineering applications. The expansion project of Highway 99 in Chico, California, illustrates the practical use of incorporating waste tires into various aspects of a civil engineering design

project. And Cody is going to explain the next portion of the project.

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MR. MENEFEE: Good afternoon. Menefee. And our project is located in Chico on Highway 99, from East Park to Highway 32.

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MR. MENEFEE: We're going to be utilizing rubberized asphalt in the expansion of Highway 99. Also we'll be using tire-derived aggregate as a backfill material. And it will also be used for slope stabilization.

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MR. MENEFEE: What is rubber asphalt? It's a composite of traditional asphalt mix, recycled tire rubber and aggregate.

It was first developed in the sixties in Arizona by Charles McDonald. CalTrans began using it in 1978. And today it's extensively used here in California Arizona, Texas, and Florida. And it is used in chip seals, inter-layers and hot-mix asphalt.

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MR. MENEFEE: This is an example project. This is an example project. This is at an intersection in Los Angeles. The top picture you could see the interaction

has bad cracking around it. And a year later you can see the section where they repaved with rubberized asphalt. And you can see it's in really good condition. And even the surrounding areas are in good condition.

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MR. MENEFEE: Five years down the road you can still see the intersection used with rubberized asphalt is in really good condition, while the surrounding area is beginning to crack.

And ten years down the road you see around the intersection the road has been sealed, while the section used with rubberized asphalt is still in good condition.

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MR. MENEFEE: We used rubberized asphalt for the entire project, which is about 2.1 miles long, and it will use about 88,700 square yards of asphalt. This is not including the on or offramps. And this is going to expand the current two-lane freeway into a six lane.

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MR. MENEFEE: Some benefits of using rubberized asphalt is it utilizes a waste material of tires, and it uses about 25,000 tires alone on this project, which is 2,000 tires per lane mile. It reduces vibration and noise. It requires less maintenance. It improves durability and traction. And when it's raining, the

spray/splash effect is actually eliminate -- is reduced and it eliminates standing water.

And the increased contrast in the road actually improves the striping visibility.

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MR. MENEFEE: And I'm going to turn the floor back over to Julian, and he's going to talk about tire-derived aggregate.

Thank you.

MR. STORELLI: All right. The expansion of Highway 99 will require the construction of a retaining wall on the portion of highway that is elevated above the existing ground surface. The retaining wall is necessary to prevent the downslope movement or erosion of the soil roadway structure.

The design of the retaining wall is largely dependent upon the lateral earth pressure exerted from the soil of the roadway structure.

The lateral earth pressure increases as the weight of the soil on the roadway structure increases. As the lateral earth pressure goes up, the force that the retaining wall must resist increases. A larger lateral earth pressure requires the retaining wall to have more concrete and more reinforcing steel, which increases the cost of the wall.

The use of the lightweight backfill material for the retaining wall would reduce the lateral earth pressure, reducing the size of the retaining wall, lowering its cost. Waste tire-derived aggregates, or TDA, will be used as the backfill material for the retaining wall.

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MR. STORELLI: Tire-derived aggregates, or TDA, are waste tires which have been processed into small pieces of consistent size and shape.

TDA possesses properties which civil engineers, public work directors, and contractors need. It is a lightweight material. It unit weight is about half that of soil. It has a high permeability, meaning that water can easily pass through the material. And TDA is very durable.

And the use of TDA can help solve the significant waste management problem, while considering natural aggregate resources. TDA is divided into two categories, Type A and Type B.

Type A is processed into chips between 1 and 3 inches in size, and is generally used as a drainage material, a gas leachate collection medium, and as a vibration dampening layer.

Type B is processed into shreds generally 12

inches in size and less, and is used as lightweight fill material for embankments and retaining walls.

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MR. STORELLI: Since TDA is lightweight, about half that of soil, it can be used as a construction material in a wide variety of projects, especially the top highly compressible grounds. The lateral earth pressure exerted on the remaining wall is lower due to the lightweight of the material. And TDA has a high void content compared to water -- compared to soil, allowing water to easily drain through the material, lowering the weight and the lateral earth pressure of the roadway structure especially during wet seasons.

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MR. STORELLI: And here we have examples of past successful projects which incorporated the use of TDA.

The first project was in Topsham, Maine. And it was 300-meter-long bridge built atop 50 feet around, 50 feet of highly compressible marine clay. And this resulted in an abutment slope to have a factor of safety around 1. And the most economical solutions to improve the factor of safety was to excavate the slope and backfill it with TDA.

And after this project was completed, for about five years it was monitored and it had very successful

results.

The next project was completed in 2003 in California. And Route 91 in Riverside, California, was to be a widened. And in order for the road not to encroach on existing property, a retaining wall was built and the wall was backfilled with TPA. And the result of using TDA was a lower cost in the wall and 837,000 waste tires were used in this project.

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MR. STORELLI: This right here shows an example of where a retaining wall would be required on the 99 expansion project.

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MR. STORELLI: The use of TDA in the Highway 99 expansion project has both economical and environmental benefits. The size of the retaining wall would be reduced, lowering the overall cost of the project. Waste tire stockpiles would be reduced by about 75 tires per cubic yard of fill used.

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MR. STORELLI: We at ECS recommend the use of rubberized asphalt concrete for the paving expansion and TDA for the slope soil stabilization and retaining wall backfill. The use of waste tire products will save money with the initial construction costs as well as saving

money in future maintenance costs.

In addition, waste tires will be diverted from landfills, helping to solve a major environmental issue.

Thank you for your time.

ACTING CHAIRPERSON LAIRD: Thank you very much.

Any questions or comments from Committee members?

COMMITTEE MEMBER MIGDEN: It's very inspiring.

I heard Chico State was a party school.

(Laughter.)

COMMITTEE MEMBER MIGDEN: So you've proven that different, huh?

(Laughter.)

DR. CHENG: Yeah, we have a great engineering program.

COMMITTEE MEMBER MIGDEN: They recycle those alcohol bottles into the thing with the asphalt?

(Laughter.)

COMMITTEE MEMBER MIGDEN: Anyway, gentlemen, it's very impressive, it's terrific. And I hope we can just continue to convince folks involved in road construction, you know, that asphalt and the kinds of projects that you're initiating are the way to go in the future.

And we hope we can maintain -- have the strength in that composition to take care of everything that roams our roadways.

So thanks very much.

DR. CHENG: Thank you very much.

ACTING CHAIRPERSON LAIRD: Thank you.

Sheila.

BOARD MEMBER KUEHL: Just one further comment.

I think, just to let you know, because you'll probably be creating a number of presentations over the next 50 years of your work life, this was really good because of the simplicity of it and the clarity of the points that you wanted to make.

It's more effective when you don't read to us what we're reading on our screen. Because the whole point of the presentation is you give us the bullet points to look at, then you explain the bullet points as you go along. And I thought you did very well for most of it.

I wonder if there's an application for this. Do you -- is this simply a project for school for, you know, a grade or credit or whatever, or is this applicable as a presentation? I understand you're a fictional company. But I mean the clarity of the benefits of these two products from tires I think was very clearly presented and would be I think useful to us and others to explain it to localities and other places that really don't understand why one would be better than the other. I know you'll say sure, right?

(Laughter.)

BOARD MEMBER KUEHL: Although I don't know if you'll go along with every presentation as a presenter. But I think this is very useful for us, Mark.

EXECUTIVE DIRECTOR LEARY: Member Kuehl, we've long tried to market this kind of thinking in approaches to local jurisdictions as they build their roads and build their retaining walls into the future. I don't know that we've ever heard it quite said so elegantly as the two gentlemen --

BOARD MEMBER KUEHL: Yeah, elegantly in the sense of without extraneous curlicues, so that people can really understand. I think we ought to be able to use this, because it really is one of the clearest, simplest, but most convincing presentations. I thought it was really well done.

So, perhaps we ought to see if there's a way to adapt the presentation. This is just an example for, you know, Highway 99. But still, the notion of why the pavement and why the retaining walls, I think we could use it.

EXECUTIVE DIRECTOR LEARY: I think with any luck at all, those two will be future CIWMB employees. That's the way I'd like to see it work out.

BOARD MEMBER KUEHL: Yeah, and by then we'll try

to get the furloughs repealed.

(Laughter.)

ACTING CHAIRPERSON LAIRD: I'm sorry that Member Kuehl depressed you by acknowledging that you might have a 50-year career.

(Laughter.)

BOARD MEMBER KUEHL: I'm sorry. I'm sure you'll get retirement from some of your jobs, which legislators didn't. So that's why we're still here.

ACTING CHAIRPERSON LAIRD: But it's amazing that you could start a 50-year career with something that was referred to as an elegant PowerPoint presentation. That is very good.

And we are so appreciative, that we have prepared certificates of appreciation for both Julian and Cody. And it acknowledges your innovative civil engineering class project and your willingness to embrace the use of alternate environmentally friendly construction technology. And it says that "The road to a greener California will be paved with products that continue to find and better uses for millions of waste tires. Congratulations on a job well done."

And it is signed by each one of us.

And so for Julian and Cody, we really wish to thank you and acknowledge you for your work. And as we

head into our lunch break, the members are going to come around so that we can take a picture with you and the certificates, that you can hang on your wall for your 50-year career.

(Laughter.)

ACTING CHAIRPERSON LAIRD: So we really appreciate you being here.

We will go into recess and come back at 1:30. And the members will walk around so that we can have our pictures taken.

DR. CHENG: Thank you so much.

(Thereupon a lunch break was taken.)

AFTERNOON SESSION

ACTING CHAIRPERSON LAIRD: Okay. Thank you all for bearing with us.

I'm going to call the Committee hearing back to order. We're going to resume the agenda right where we left off. So we're going to take up Board Item 12. We're going to go in order.

I know we have some people that have to leave by 3. I know that's a tight timeline. But we're going to do our best.

And so let's move to Item No. 12.

WASTE COMPLIANCE & MITIGATION PROGRAM DIRECTOR RAUH: Yes, thank you, Chairman Laird.

I'm Ted Rauh, Waste Compliance and Mitigation Program Director.

Item 12, Committee Item D, is a presentation of a contractor report prepared by Dr. Trish Foschi and Research Technician Becky Quinlan from SAN Francisco State University.

The report details their results to develop currently available satellite technology to locate and monitor waste tire piles. Which is not what it says directly on the overhead. So so far I'm doing pretty well here.

To set the stage for this item I'm going to turn

it over to our Contract Manager, Darryl Petker, who will give you --

ACTING CHAIRPERSON LAIRD: I think you're only off by remote imagery.

WASTE COMPLIANCE & MITIGATION PROGRAM DIRECTOR RAUH: Right. But I was off.

(Laughter.)

ACTING CHAIRPERSON LAIRD:

WASTE COMPLIANCE & MITIGATION PROGRAM DIRECTOR RAUH: With that, Darryl, take it away please.

(Thereupon an overhead presentation was Presented as follows.)

MR. PETKER: Thanks.

And that was my bad -- the words were changed just to make it a little simpler and not put so much stuff on the slide, Ted. Thank you, Ted.

Again, Mr. Chairman and Board members. My name is Darryl Petker. And I just kind of wanted to give a little update and put in context this effort and then present it. And then I'm going to have the two people present it here.

First, is this is the second agreement we've had on using satellite current technology - not purchased and not specific - but a currently available technology, off-the-shelf stuff -- I'm sorry -- satellite imagery

that's off the shelf to put it into a program to see if we could locate and monitor waste tire piles throughout California and specifically along the California-Mexico border, which you heard yesterday was in support of the border study that was completed.

This agreement, which is the second -- let me back up just a second.

The first pilot project was done by NASA. Becky Quinlan, who you'll hear in a second, was one of the people that was instrumental in developing that. She followed us -- or we followed her to San Francisco State so that we could use that efficiently and keep some continuity on this project.

This agreement was for $260,000 and has taken three years to get done in the project. And the purpose again is to continue to develop the stuff that was developed at NASA, to see if there is a viable use for current satellite technology to locate and monitor used and waste tire locations throughout the border and California.

We asked them to evaluate it, develop it, and then get back to us with what they found. So we've been closely monitoring this as we go.

They will also discuss the methods they used, how they do it, explain that to you so you can see how the

process works.

And on a side note before I introduce them - I'm just about done now - I've managed numerous contracts here. And I'd like to say that working with these people here was the easiest contract I've ever done.

Dr. Foschi would never say this, but she actually lowered her labor costs so that her staff would have more time to do their work. But I don't think she lowered her labor. Okay. Always on the phone, always working with us. It was really nice.

And I might also add that she came from San Francisco today and took Amtrak, just so you know.

(Laughter.)

ACTING CHAIRPERSON LAIRD: And I'm sure that change was totally within the wage and hour loss.

MR. PETKER: Absolutely.

ACTING CHAIRPERSON LAIRD: Thank you.

MR. PETKER: I'm really surprised if she charged us.

Anyway, so with that said, please, let me introduce Dr. Trish Foschi.

Please, come on up.

And then Becky Quinlan, who will talk in a second.

DR. FOSCHI: All right. Thank you, Darryl.

Thank you to the Chair and members of the Board for having us here and explain -- to allow us to present this material.

I want to say things briefly, because Becky is really the one who's had the hands-on in this project. And I'd like her to really -- she will do the presentation.

But I want to -- I'm here really to tell you what an extraordinarily successful project this has been. And I come at that -- not just because I'm the PI on the project, but because I've been in remote sensing for over 25 years. I have been -- since my doctoral work I have been working on what are called mixed pixel problems. Now, without going into the technicalities of that, let me tell you that waste tire piles are a type of mixed pixel problem. They're difficult and complex things to see in satellite imagery.

So a lot of my own career has been dealing with such problems. Although I haven't personally dealt with the mixed -- at the waste tires until dealing with Becky.

I've had over 11 years of NASA funding personally. I've had many years of CALFED funding, State agencies in California, Department of Boating and Waterways for one, et cetera, et cetera. International collaborations with both other geographers - that's

because I'm a geographer - and also with computer scientists, et cetera. I've even started collaborating with some archeologists abroad.

I tell you all of this because most of what I've done has been on the mixed pixel level. I have a broad range of experience with that. And, therefore, I'm really able to tell you that this is a hard problem and it has been extremely well done, and Becky has really done that job.

So what has Becky done in a nutshell? I would like to just toot her horn for a brief minute here.

First of all, she really is the person who developed the algorithm to do the computer image processing. There was another nominal person working with her. But she really was the person who developed the algorithm.

She also has taught herself - self-taught - how to visually interpret the imagery to find the tires, in other words, to be able to see very unresolved objects in the imagery. There was nobody around to teach her. Even with my experience in mixed pixels, I didn't know what a tire looked like either. There was nobody she could go to, there was no book to look up what do tires look like in imagery.

And then finally she brought these two parts

together, the computerized part and the visual interpretation part, into a method which is rather nicely packaged at this point. She's worked with Waste Management Board people, on the ground and others, to come up with a methodology for how to go out in the field, how to use the -- how to use the technique, and one that could be packaged and passed on with some instruction.

So that's all I have to say for the moment. I will introduce then Becky, who will give you a little bit more of the nuts and bolts.

Thank you.

MS. QUINLAN: Thank you, Trish. And thank you, Darryl.

And thank you to the Board for this opportunity.

ACTING CHAIRPERSON LAIRD: Welcome.

--o0o--

MS. QUINLAN: As Darryl told you, the first study was the NASA study. And that area was less than 50 square miles and is represented by the two -- by the four little dots. There are two up in Sonoma-Marin area and two in southern California.

The current study is represented by the polygons, the darker pink polygons there in California. That encompasses well over 7,000 square miles.

--o0o--

MS. QUINLAN: When I get a satellite image it looks about like this. And the red in this image is vegetation. There are some power lines in this image. There's a road. And there are waste tires. This image is about a quarter square mile -- sorry -- a quarter mile on each side. And so we're really already targeted on the tires here.

Please remember we're talking about 7,000 square miles. So when I get the image, I don't know where the tires are to start with.

--o0o--

MS. QUINLAN: This is the result of the output of the tire model. That's the model, the algorithm that I developed to find tires. Again, it doesn't really tell you very much. The white pixels are where the computer thinks the tire might be. And the black -- the computer says, "I don't know what it is, but it's probably not tires."

So I need to make this into a format that I can read and visually interpret. And the first step there is to do what's called pan sharpening. Pan sharpening makes it easier to visualize the tires or whatever objects are in an image. And then I lay the tire results over that pan sharpened.

--o0o--

MS. QUINLAN: Now, you can see the power lines in the left-hand side of the image. You can see the road just south of the tires. And then the bright green dots there are where the computer thinks the tires might be.

Then I create -- then this is the pan-sharpened image. You can see how much clearer it is. Then I'll create something for the inspectors so that they can go find this site. This doesn't really give you a lot of information yet.

So first I circle areas where I think there might be tires. Then I point out any landmarks in the area that they might be able to use to find them. Then I give them a description of the site as well as the latitude and longitude.

They head out and see what's in that location.

--o0o--

MS. QUINLAN: And in that particular location this is what they found - 500 to 1,000 waste tires dispersed in piles and dispersed around. Also evidence of tire burning along an old road in the desert.

--o0o--

MS. QUINLAN: So to represent that numerically, I'm afraid I may end up reading a little bit from this slide.

First I'd like to tell you what is not on the

slide. What's not on the slide --

ACTING CHAIRPERSON LAIRD: Ms. Kuehl left.

MS. QUINLAN: What was that?

ACTING CHAIRPERSON LAIRD: Ms. Kuehl left.

MS. QUINLAN: Oh. I'm safe then.

What's not on the slide are tire sites that I already knew about before the analysis happened.

For instance, in Sonoma County there were sites that we had already found with the pilot study. And in California-Mexico Border Region 2, there were two sites that were published in the Region 9 EPA publication. So I already knew about those sites. I used those sites to calibrate the model. They're not among these results.

Also not among the results are sites that inspectors were unable to access. They may have approached a property and there was a solid wall all around it and they didn't climb the wall to look in. So, those sites are not included in these results either.

For instance, in the California-Mexico Border Region 2, I submitted 89 potential waste tire sites to inspectors. They were only able to access 76 of those. So those are the ones that are represented right now.

The three categories - correctly identified, incorrectly identified due to presence of dark object, and uncertain - might be a little confusing.

So "correctly identified" means that I as the image analyst described the area. When the inspector got there, that's what they found.

"Incorrectly identified due to presence of dark object" means that I said it might be tires, and there was something there, but it wasn't tires. It was a pond or a black plastic or asphalt.

"Uncertain" is a kind of catchall category for sites that cannot be placed in correctly or incorrectly identified. Inspectors may have failed to find the exact location. Or they had limited access; they were able to find the location, they were able to look through a fence, but they weren't actually able to go in and pinpoint the exact site.

As you see, from Sonoma County 82 percent of the sites were correctly identified and 3 fell into that strange uncertain category.

Overall in Sonoma and Marin counties there --

ACTING CHAIRPERSON LAIRD: I'm sorry. I just said that was Marin.

(Laughter.)

MS. QUINLAN: In both Sonoma and Marin counties we actually did that combined. So although the results were represented separately here, it was one phase of the project. And that encompassed an area of 2,687 square

miles. That was all of Sonoma County and then the northern portion of Marin County.

For California-Mexico Border Region 1, that's all in Mex -- sorry -- that is all in California, 121 sites were submitted to inspectors and were accessible and were not already known by me. 76 percent of those sites were as described by me in the analysis. And that was over an area of 1,800 square miles.

In California-Mexico Border Region 2, that was a majority in Mexico, a little bit of California, and a tiny bit of Arizona. One site was in Arizona.

Again, that was 3,281 square miles. And 87 percent of the sites were as identified from satellite imagery.

And as you heard yesterday if you were here, Dr. Ganster said that the Mexican authorities were really pleased with the amount of tires piles that we found that they didn't already know about.

So overall, the area was 7,785 square miles for this project. And we completed it with an 80 percent success rate for the "correctly identified" column there.

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MS. QUINLAN: So visually some of the results would look like this. In Sonoma County, for the picture on your left, that again is the result of the tire model

in bright green representing where there are tires. And you'll see later this is an area that's -- actually, no. Sorry. Wrong one.

So this area is in Sonoma County. And that's what it looks like from the satellite. Again, vegetation is red.

The second set of pictures is in southern California, in California-Mexico Border Region 1. And the area circled in red is the area that you see a photograph of right below it.

--o0o--

MS. QUINLAN: These are both in northern Mexico. The site at the top is a known waste tire distribution site. And you can see here this shows you kind of the benefits of monitoring that you can do with satellite imagery. This is a known site. But you can see the fire lanes are being encroached upon by the tires.

And, secondly, there are a lot of tire piles in northern Mexico are actually used for fencing. So you'll see a lot of land delineations made with tires.

--o0o--

MS. QUINLAN: We've made a number of improvements over the course of this project. One is with the pan sharpening and the step-by-step guide with tools for inspectors. We found that communication between the

analyst -- as you can see, these satellite images sometimes are hard to interpret -- really needs to be focused on communicating with the tire inspectors themselves. And jurisdictions vary according to site. And we make sure that we provide as many tools as possible to help the tire inspectors get to where they need to go.

And to that end we've developed the snapshot, such as the picture I showed you earlier, and Google-Earth files so that they don't have to type in latitude and longitude. It's already there for them, which really reduces human error.

--o0o--

MS. QUINLAN: So for the future, long-term monitoring is certainly a possibility. On the left-hand side you can see one site -- two pictures of the same site. The first has arrows pointing to where there were tires. The second, you can see the white area that's been scraped clean down to bare earth for the tires.

And the second picture would be representing that we can monitor other things other than just waste tires. We can monitor dumpsites. We can monitor invasive species. All sorts of other things we can use with this same imagery and with a similar process.

Well, thank you so much for this opportunity to present. And I'll be happy to answer any questions you

might have.

ACTING CHAIRPERSON LAIRD: Let me just ask one question that's a general one.

MS. QUINLAN: Certainly.

ACTING CHAIRPERSON LAIRD: You were very specific about sort of the percentages that things popped up in your observation.

Do you have sort of a ballpark of, okay, using this technology, would you say -- I don't know what the number is -- 75 percent of the time you really identify something that's a tire site without inspection or -- where are you in the -- I don't know what the word is -- you know, high definition of really getting to things?

MS. QUINLAN: I'm happy to report it's 79.98 percent. Yeah, for this project that's what it was.

ACTING CHAIRPERSON LAIRD: And you wish it was just two-hundredths higher?

MS. QUINLAN: I'm sorry?

ACTING CHAIRPERSON LAIRD: You wish it was two-hundredths higher?

MS. QUINLAN: Of course I do, yes. I'm happy to round up to 80 if that's good with you.

And that is well -- that's certainly a very good rate for remote sensing analysis of natural phenomena. I know that tire disposal isn't necessarily considered a

natural phenomena. But when we look at the Earth's surface and it's kind of a wavy edges sort of thing, that's really --

ACTING CHAIRPERSON LAIRD: Because you could be dealing with shadows or other things that might --

MS. QUINLAN: Yes.

ACTING CHAIRPERSON LAIRD: The other question I had was, it was interesting to see the map and see the quarter just south of the border for however many miles. Did you learn things about what you found there that you hadn't even speculated on? I mean what was -- what sort of came out of that in terms of knowledge that was new?

MS. QUINLAN: Well, I can't speak to the causality. But there are lot more waste tire piles south of the border than we have in California. And whether that's through regulation or through culture, there's a definite difference between the two.

I certainly learned about some creative uses for tires. There was one site that was -- I wrote down on my guess of what it was. I said, you know, I think this is a paint ball range.

(Laughter.)

MS. QUINLAN: And it was a paint ball range. So we use tires for a lot of things that we don't necessarily think about on a day-to-day basis.

ACTING CHAIRPERSON LAIRD: That's amazing.

Any other questions?

COMMITTEE MEMBER MIGDEN: That's interesting.

Are you sure the Mexicans didn't know about those tires?

MS. QUINLAN: They said they didn't.

COMMITTEE MEMBER MIGDEN: Okay. And so what you're able to do, we can't surveil by planes and anything else? Is this anything akin also to what firefighters are using?

MS. QUINLAN: Actually I -- here at my fire department. And I'm not a fire fighter myself. I'm an EMT. But I was speaking to a fire fighter about this particular issue about looking for objects as you fly over. It's actually very difficult in the moment to - even when you know what you're looking for and you know approximately where it is - to find an object like a downed plane in their instance.

COMMITTEE MEMBER MIGDEN: Because that's the naked eye looking?

MS. QUINLAN: Right. And this we have the advantage that it's a still picture. I have a number of different ways to look at it, both with a computer and with my own eyes. And I have a number of different ways with the computer to look at it. So I have the advantage

of being able to spend time in each location.

And that while an air plane certainly probably would work, I don't know if -- they're definitely two different techniques.

COMMITTEE MEMBER MIGDEN: But that's heretofore what they used to do, you try to look for stuff and you surveil. And you're saying we have a new approach?

MS. QUINLAN: Right. We have a number of methods in the past. One was using CHP helicopters, both reporting what they saw when they were out. And also zeroing in on complaints. That's another way that we find -- have found tires in the past is through --

COMMITTEE MEMBER MIGDEN: People call in?

MS. QUINLAN: Right.

MR. PETKER: Let me, if I could, just jump in here a little bit. And the way this would work is she would provide us with the information, and then we would cooperate with the grantees or our inspectors to -- and sometimes even Becky would go out, and we would double check, confirm that.

Some of those times we would use helicopters if it wasn't accessible easily or cover quite a few sites at one time from the CHP. And then other times we'd have people -- inspectors drive to those sites to do that.

So in answer to the question about can we do it

through helicopters or planes, yes, we can.

So we're kind of evaluating the cost effect of it right now. And satellite imagery is not cheap. So there's some --

COMMITTEE MEMBER MIGDEN: Neither are the helicopters

MR. PETKER: Neither are the helicopters, yes.

So we're discussing those right now.

COMMITTEE MEMBER MIGDEN: Yes, Doctor, did you want to --

ACTING CHAIRPERSON LAIRD: If you'd move to the mike.

DR. FOSCHI: May I just say one thing to sort of bring a couple of these points together.

Your question about the ballpark accuracy and also the timeframe of three years on the project.

Let me put it this way. Normally when you do a project that's this kind of algorithm development there's much more to-and-fro between ground data coming in, develop algorithm, go back, ground, back and forth, back and forth between the reality on the ground and the image itself.

You learn to adopt one to the other until you get a maximum and then you're happy when you get 80 percent. That even sometimes with easy subjects.

Now, Becky has had, in a sense, not a lot of ground data throughout this project. The amount of -- you know, with the few sites she had in Marin and Sonoma were, you know, a handful compared to what was going on in the California-Mexico border area. And she had only a few sites -- ground truth sites, as we call them, in that area.

So, the -- if anything -- I mean this is why I'm looking at this as being extraordinary results. 80 percent on a mixed pixel target with as little of the back and forth that would normally go on is excellent. One could only assume -- I would only assume that given, in a sense, an in-house use of this over time, that the percentage would go way up. You should gain at least another 10 percent. And so that's even more extraordinary.

So I would judge this as being really at a pilot project level.

Now, having also said that, because there's been a lot of different bodies involved, the Waste Management Board, the people at San Diego, the people in -- the environmental people in Mexico and so forth, there's been a lot of delays of the ground part. So there's been a lot of dead time in this three years.

And, in fact, we've had -- we are under budget.

We are under budget because Becky's time has not been used, you know, to do everything. There could have been more.

So I would like to say that essentially, again - and we're looking at a pilot project rather than a fuel blown - we did it

ACTING CHAIRPERSON LAIRD: All right. Thank you. That's very helpful.

Before we finish, I was going to ask if the staff had any sort of last comments you wish to make.

WASTE COMPLIANCE & MITIGATION PROGRAM DIRECTOR RAUH: I think the only thing we would add is that we too are very grateful for all the effort that the contractor and investigator have made. And as I did not say in my introduction but I think has come out here, we do intend to come back to the Board in a couple of months with some suggestions and recommendations on what to do with this analysis as part of the tire plan analysis.

ACTING CHAIRPERSON LAIRD: All right. Thank you.

MR. PETKER: One more thing, if I could add, is we received several inquiries, both from the U.S. EPA, the University of Texas, and some other organizations, who said, "Can we have that model?" In other words they were going to develop on it. So sometimes copying things is a pretty nice form of flattery.

So there is interest out there.

COMMITTEE MEMBER MIGDEN: And not stealing our patents.

Anyway, I'm very proud of San Francisco State, as I eternally am, and I know I'm joined by the Chair, because it's got a vibrant history and certainly an innovative one. And doctors and sort of the next generation coming aboard, we're very -- we're thrilled that you will assist us in our work. And we do think that biotechnology, at least I do, in a lot of these innovations will be the ways to eliminate and emulsify waste and find it and get rid of it. And it's exciting to be part of that new era.

I thank you both.

MR. PETKER: One more thing, if I could add, is - Dr. Ganster said it yesterday, and I was told it also - is that the officials from Mexico were very interested in this. So I'll leave it at that. But okay.

Thank you.

ACTING CHAIRPERSON LAIRD: Thank you.

And I echo Carole's comments and just -- also I just wanted to thank you for waiting too. I know that there were presentations in front of you. And so I appreciate this. This has just been very helpful, and we'll look forward to the follow-up that we're going to

get too.

Thank you.

We'll move on to Committee Item E, Board Item 13.

And now the rest of the items are decision items. And hopefully we will start to move through them.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Thank you, Mr. Chair. Howard Levenson again.

And while staff comes up, just for the sake of everyone who's listening, I wanted to note the relationship of all these tire items together. There's 13 tire items on this month's agenda. There are 4 of them that don't have funding implications. You just heard the satellite one, the Chico State presentation, and yesterday you heard the border tire study and the hauler regulations.

All of the other tire items have funding decisions that the Board's making this year using Fiscal Year 2008-2009 fundings that have been allocated previously.

So you heard surveillance equipment and enforcement yesterday and the clean-up grants yesterday. Now we're going to hear a series of additional funding items. The first one will be Item 13, which is the grant awards for Rubberized Asphalt Concrete Grant programs. All of these funding items lead into how many funds are

available reallocation, which is subject of Item 14, the reallocation item.

And I should have placed that one last when we were arranging the agenda, but I didn't. So just so everyone understands that these are all feeding into, you know, the amount of funds that are available for that consideration by the Board.

(Thereupon an overhead presentation was Presented as follows.)

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: So with that little road map through the tire items, let me turn to Item 13, which is -- I mentioned is our Consideration of Grant Awards for the Rubberized Asphalt Concrete Grant Programs item for this year.

And I'd like to turn to Pamela Kelley to give that presentation.

MS. KELLEY: Thank you, Howard.

Good afternoon, Board members.

As you may recall the Board approved our grant awards for our first solicitation back in January.

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MS. KELLEY: Out of the 50 applications received, 43 were deemed eligible and complete for funding. Six were disqualified due to applicants failed to submit required documents. And one applicant withdrew before we

conducted our evaluation process.

Out of the four eligible applicants that can be funded at this time, three will be fully funded and one can only receive partial funding.

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MS. KELLEY: We believe one of the reasons that the RAC Grant programs are oversubscribed this fiscal year is because staff made a special effort to outreach to underserved groups in the State.

We targeted indian tribes and rural jurisdictions.

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MS. KELLEY: Staff recommends a four-step funding approach to address the oversubscriptions of the two RAC grant programs.

First step is to exhaust the Fiscal Year 2008-2009 initial funding allocations through the regular grant approval process.

The second step is to seek additional funds through the reallocation of the Fiscal Year '08-'09 Tire Recycling Management Program funds.

The third step is to conditionally approve the funding of eligible RAC grant programs applications for Fiscal Year '08-'09 using 2009-10 funding.

And the final step would be to cancel the Fiscal

Year '09-'10 RAC grant program solicitations as available funds for 2009-10 will be exhausted from the result of implementing Step 3.

This presentation is only addressing Step 1, as a separate item will be heard later today that addresses Step 2. And staff will bring an item to the Board in May that addresses steps 3 and 4.

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MS. KELLEY: Staff recommends that the Board approves the proposed grant awards and adopt Resolution No. 2009-49.

This concludes my presentation. And I'm available for any questions.

Thank you.

ACTING CHAIRPERSON LAIRD: Thank you.

Are there any questions?

I don't have a question.

This was very clear. And I also wanted to thank you, because I know out of the last discussion the locations were added in the chart in an easy way that gave us a good sense of that.

And so is there a motion?

COMMITTEE MEMBER MIGDEN: What awesome power to the one remaining Board member.

Yes, I move. I so now move the exception that we

divert all the money from Vacaville and Indio to San Francisco. So with that amendment on Pinole, it is moved -- no, no.

Moved as is, as recommended.

ACTING CHAIRPERSON LAIRD: Because I was going to second everything else. But --

COMMITTEE MEMBER MIGDEN: And Whittier, I was going -- no, I mean I was going in with Watsonville.

ACTING CHAIRPERSON LAIRD: I'll second that.

Seeing no discussion.

I'll ask for a roll call.

EXECUTIVE ASSISTANT GIN: Laird?

BOARD MEMBER LAIRD: Aye.

ACTING CHAIRPERSON LAIRD: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Brown?

ACTING CHAIRPERSON LAIRD: That motion carries.

And as we move through these, is it likely that we should put these on consent for the full Board?

EXECUTIVE DIRECTOR LEARY: You could say something about the consent or fiscal consent, or I will simply conclude by the nature of the vote that it's on fiscal consent. So if you don't remember to direct me, I will so conclude.

ACTING CHAIRPERSON LAIRD: Then --

EXECUTIVE DIRECTOR LEARY: But this one would normally be on fiscal consent.

ACTING CHAIRPERSON LAIRD: Great, because I think this should be on fiscal consent. We'll either try to address it, but we're very appreciative of whatever you wish to conclude, if that's what you have to do.

(Laughter.)

ACTING CHAIRPERSON LAIRD: We'll move to Agenda Item F, Board Item 14, the Consideration of Grant Awards from the Reallocation of the Tire Recycling Management Program Funds.

(Thereupon an overhead presentation was Presented as follows.)

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Tracey, if we can have the Item 14 please.

While that's coming up, obviously this item is the biggy. This seeks your consideration of reallocating Fiscal Year 2008-2009 tire recycling funds to what we're proposing for your consideration is four oversubscribed tire grant programs.

This is an annual exercise. We do go through it about this time each year. Because over the course of any given year some of the funds that were allocated by the Board for various activities are not used -- are either not encumbered in agreements, for example, a contract

might come in lower than what we expected, or some grants might not be actually executed. So around this time each year we bring an item to you seeking how to reallocate those funds into different line items.

Typically we're looking for existing grant programs because we're near the end of the year. And if we were going to go into any kind of contractual agreements, we would be running up into severe time constraints. And this year we have four very oversubscribed grant programs, so it's very easy for us to make these recommendations to you.

So I'm going to turn it over to Sally French, who's our person who kind of monitors all things tire-funding related, and she'll run you through this item.

MS. FRENCH: Good morning. I guess afternoon. Sorry. I'm Sally French with the Statewide Technical and Analytical Resources Division.

Each fiscal year funds remained that may be reallocated to other projects. This year the tire program expended 93 percent of the funds. So we're here today to talk about the other 7 percent.

If the funds are not reallocated, they will revert to the Tire Fund.

--o0o--

MS. FRENCH: We have seven activities that range from $11 to 1.1 million that have funds that are remaining.

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MS. FRENCH: Those seven activities listed on the previous slide total $1,000,702.94. In addition we have a million dollars emergency reserve which may be available contingent on no emergencies on or before June 30 of 2009.

--o0o--

MS. FRENCH: Like Howard said, we have four oversubscribed grant programs. There's not enough funds to fund all of the B list.

Our recommendations are to cover three of those grant programs: The Local Government Waste Tire Cleanup and Amnesty Grant Program; the Tire-Derived Product Grant Program; and a portion of the Targeted Rubberized Asphalt Concrete Incentive Program.

--o0o--

MS. FRENCH: That summarizes this.

And staff recommends funding the projects in Attachment 2 and delegating authority to the Executive Director to fund these projects as funds become available and adopt Resolution No. 2009-45.

ACTING CHAIRPERSON LAIRD: And that completes the staff --

MS. FRENCH: That completes.

ACTING CHAIRPERSON LAIRD: The one question I had was -- just in reading these, it totally made sense, the B list made sense. The question is, are there any choices that have to be made or is it truly by category it becomes available and you run down within the category what is in a sequence there?

MS. FRENCH: Staff has listed their recommendations based on how we feel that the money should go through. So we have the amnesty and the cleanup first, which would be our first priority. So we'd exhaust that list, go to the next grant program, exhaust that list. And as you said, go through each grant program through the listing that has been ranked by the criteria.

ACTING CHAIRPERSON LAIRD: Okay, great. I'm glad -- that makes perfect sense and I'm supportive of it. I just wanted to hear you say it.

Any additional questions?

COMMITTEE MEMBER MIGDEN: I know we're going on the -- I wondered which counties -- and I know we're going to have an outreach effort that, Howard, maybe relates to the second part. But if I'm okay to jump in.

The counties that didn't utilize our program were these Plumas and Mariposa, sort of these smaller northern counties in the main. Santa Barbara doesn't ever want to

pick up on something we have to offer? Tire grants?

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Member Migden, I think in the -- we'd have to pull together, which we will be doing for the item that we're bringing to you in time --

COMMITTEE MEMBER MIGDEN: All right. Well, let's let it be then.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Well, we'll pull together historical analysis over, say, the last three or four years of the various grant programs and which counties. And I think when we -- we've done some preliminary work, and I can't remember exactly. But there are three or four counties -- just so you know, there are three or four counties that have never taken advantage of our programs. There's another seven, eight, something like that, that may only have gotten one grant. And most of the others have gotten three, four grants of one type or another. So those may be areas that we need to target in the future as an example.

COMMITTEE MEMBER MIGDEN: Yeah, it would be great if we did something that at least we knew it was certified mail, delivered to the right place, they ignore it, they don't. But just somebody's address, just somebody and they left the job and the mail got thrown away. You kind of don't really know in those kind of -- so just to say --

I'd appreciate it if some kind of information, by the way, another notice, second notice, "Here's what we're about. Do you care to avail yourself?"

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: And we do do that on -- and I appreciate your point about addresses change, because that happens all the time. We get Emails come back that, you know, nobody's there.

COMMITTEE MEMBER MIGDEN: Person left.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: But we do send out -- we do make an effort through a variety of our local jurisdiction contacts to make sure we have the right person. We do send out, you know, a second notice, "We didn't hear anything" or "we have an incomplete application. You need to" --

COMMITTEE MEMBER MIGDEN: We don't do that certified or something, somebody signs for it?

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: I'd have to check on --

COMMITTEE MEMBER MIGDEN: For $10 maybe we do it.

ACTING CHAIRPERSON LAIRD: The real issue is is just having some trail to know people have been asked. That's the real issue, right?

That's really what I'm saying.

COMMITTEE MEMBER MIGDEN: However, the trail is -- what it is.

COMMITTEE MEMBER MIGDEN: Correct. And the Chair's correct. But that would be we've done our darnedest, we don't reach them. So I appreciate that.

And so this motion today would be to approve programs that have been in the pipeline. And subsequent for that we had discussions that at a further point to outreach to other locales. And I think what John was asking - if I might, Mr. Chair - was, does it turn out that we get 45 applicants for one kind of grant, we got to weed them down, and then we move along, we don't have enough, so those hardy ones that applied we give? I mean how -- that was a little bit of I think what we wanted to feel for. Is it competitive that we're elbowing out a few on the lower rung?

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Well, of course I have a scheme, if you will. And this depends in part on the May items. If you -- when we come to this in May, if you approve using the fiscal year '9-'10 monies for rubberized asphalt, tire-derived product grant programs, we will have been able to fund virtually all of the eligible applicants on all those programs this year. There'll be a few where we just don't quite have enough money. But we would not be, you know, doing the elbow dance. We would be going down the order in terms of how they were ranked. In some cases you may come across a

jurisdiction who, for one reason or another, says, "No, I no longer want that grant." So we would then move it down to the next person on the list.

COMMITTEE MEMBER MIGDEN: So pretty much it's all then there for standardized in what we look to. But we may understand some parts of the state that aren't as involved or evolved may need a little helping along. Well, that is very pleasing to me, because we're soliciting and then we're responding.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Right.

COMMITTEE MEMBER MIGDEN: So we're not begging them to apply and then they get bumped out for a couple years in a row, and then they're really discouraged.

Thank you.

Thank you, Mr. Chairman.

ACTING CHAIRPERSON LAIRD: And --

COMMITTEE MEMBER MIGDEN: So move the item.

ACTING CHAIRPERSON LAIRD: The resolution.

I'll second.

Would you please call the roll.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Chair Laird?

ACTING CHAIRPERSON LAIRD: Aye.

That carries by a vote that Executive Director

could make a deduction having to do with consent.

(Laughter.)

ACTING CHAIRPERSON LAIRD: So we will move to Item No. 15 on our regular agenda, G on the Committee agenda, Consideration of Contractor for Civil Engineering and Construction Management Services.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Thank you, Mr. Chair. And you have already indicated the title.

This agenda item involves some of our very exciting tire-derived aggregate projects. Kind of a good follow-up from the CSU Chico presentation this morning.

And this is the vehicle by which we provide very critical engineering oversight -- design and oversight for local governments who are doing projects involving tire-derived aggregate. And it's really a linchpin of our efforts to reach out to local elected officials, public works officials and the like to convince them of the efficacy of this kind of -- these kinds of projects.

And I want to turn the presentation over to Stacey, who has really, along with a couple other folks, her colleagues, really lead the Board's charge on getting these projects going over the years. It's been a long time growing this market. I think we're on the verge of a lot of success. We've had some great projects. And she'll run through quickly some of them and get on with

the contract.

(Thereupon an overhead presentation was Presented as follows.)

MS. PATENAUDE: Good afternoon. Stacey Patenaude, the Sustainability Program.

This afternoon I'm here to present Agenda Item 15, which is Consideration of Contract for the Civil Engineering and Construction Management Services for the Tire-Derived Aggregate Applications Contract.

I realize we're short on time. But I would like to give a real brief presentation on the type of projects I've been working on for the last 11 years and just give you an idea of what we're working on.

COMMITTEE MEMBER MIGDEN: Take your time.

MS. PATENAUDE: Pardon?

COMMITTEE MEMBER MIGDEN: It's been 11 years. Take your time.

--o0o--

MS. PATENAUDE: This was our first project, in 2000. It was a CalTrans project. It was an MOU through the Waste Board with CalTrans. As you can see, we used a lot of tires and saved the State of California a lot of money.

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MS. PATENAUDE: Our next project is -- this

project's currently under construction. It's on Highway 101. It's at Confusion Hill up near Liggett. This project is completely being funded by CalTrans. And there was -- and through our assistance with design, they will be constructing that -- that project should be constructed later next year, its completion.

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MS. PATENAUDE: This project is using 270,000 tires as lightweight fill. This project was initiated and designed and is completely funded by CalTrans.

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MS. PATENAUDE: This is the first landslide repair project in California, that we completed in 2007. This was in Mendocino County. It was a road that had been failing for probably seven to ten years. We worked with the county with an MOU to assist the county in fixing this road. They had just been piling gravel and rock in the -- as the road slid down the hill for many, many years.

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MS. PATENAUDE: We came in, redesigned it, assisted the county through an MOU, designed it using TDA. Used 130,000 tires. And ultimately saved the county $90,000 over using a conventional landslide repair. And the road is permanently fixed.

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MS. PATENAUDE: Sonoma County had come up and visited that project, and they loved the idea. This is Geyser Road going up to the geysers' geothermal projects. This project had failed at least twice before and had been shut down for over two years.

A geotechnical report indicated they needed lightweight fill. And they asked us if we could help them out. So we worked on a design and then worked on an MOU to use TDA in this construction project.

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MS. PATENAUDE: This was done last year, and it was a complete success.

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MS. PATENAUDE: And we used 150,000 tires, and ultimately the county saved $128,000 over using a conventional landslide repair.

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MS. PATENAUDE: This is the project as of today.

This project will be essential in the expansion of the geothermal projects up there. They plan on using this to bring in new turbines and stuff like that. So it was critical that this road get up and going. They had FEMA funding that they had to use last year. So we were happy to be able to step in and help them.

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MS. PATENAUDE: This is a project that Sonoma County kept bringing me to when we were doing the geyser project. I refer to it as Nightmare Mountain, but it was the Sonoma Mountain Road.

ACTING CHAIRPERSON LAIRD: We've just passed Confusion Hill.

(Laughter.)

MS. PATENAUDE: This is another project that has been failing over failed for a long time. It was a high priority. It had be to fixed. They couldn't figure out how to do it cost effectively.

And this is right in amongst houses. This is a very affluent area of Glen Ellen in Sonoma County.

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MS. PATENAUDE: So we are currently working on that. We started in October. This is -- believe it or not, they were 25 feet below this when they ended up finishing the excavation. So we've really come a long way. We hope to be done here in the next four to six weeks with TDA placement.

And this project will use 470,000 tires.

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MS. PATENAUDE: This is the projects we've been working on for the last nine years to develop a new Type 1 retaining wall. This is the first of two retaining walls

that were fully instrumental with CalTrans to gather the data dealing with soil pressure.

This is one of two walls down on the Highway 91/215 interchange project. We are currently working with a consultant and CalTrans there. CalTrans is actually very interested in this. Our initial design estimates are that CalTrans can conservatively save a hundred dollars per linear foot using tires in retaining walls. To give you an idea, this one interchange had four miles of retaining wall. So this would be a very big cost savings. And you can use this anywhere in the State of California. And you would have probably ran out of waste tires in Los Angeles if they would have done all their walls this way.

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MS. PATENAUDE: This is a technology that we at the Waste Board funded and started in 1999, dealing with vibration mitigation. We did the study in '99. Our acoustical engineering company passed the data on to the Valley Transit Authority in San Jose. They were very excited about it. So in 2000 they built a test track in San Jose. They liked what they saw, and they implemented it with no financial assistance from the Waste Board. They used a hundred thousand tires and they saved a million dollars over the next available technology.

It's working perfectly today. As we speak,

they're actually out there right now taking additional measurements to see how it's been operating since 2003.

This has been slated as the vibration mitigation technology for the new BART extension. Federal Highway Administration is requesting the additional testing to see what the longevity is since the federal funds will be used on that project.

So we're hoping that everything continues on. We have no reason to believe it won't. But this will be the vibration mitigation check technology for the new BART extension.

If there's any other questions, I can answer them now, or I can present the item.

COMMITTEE MEMBER MIGDEN: Mr. Chair.

The retaining wall is very intriguing for the future of course. And you're saying that -- what will we have to do? Is it cheaper? I mean would Los Angeles County be so encouraged because it's a terrific durable retaining wall and it's cost effective and eliminates waste? I mean is it a big persuader, or is it a matter of kind of converting new systems into popular application?

MS. PATENAUDE: This is actually a draft of the design that just was submitted to CalTrans like two weeks ago. It basically takes a standard retaining wall design that CalTrans has been use for a long time, uses the new

numbers that we generate from using the lightweight material behind it, and just reduces the amount of material that goes into it.

We estimate at least a 10 percent savings in concrete. That's it. That's all they do.

COMMITTEE MEMBER MIGDEN: So CalTrans' going to run these in counties and so we don't need an individual county-by-county buy-in on anything?

MS. PATENAUDE: All they would do is they would place in a standard specification that they would put out to bid. And they would give the contractor the option to build a Type 1 wall, which is their standard wall with the standard amount of concrete, or a Type 1T wall were going to refer to it as. The contractor would then put a bid out, decide how much it would cost them to build it with 10 percent more concrete, or by cutting down the cement --

COMMITTEE MEMBER MIGDEN: So the better way, the greener way is cheaper?

MS. PATENAUDE: Exactly.

COMMITTEE MEMBER MIGDEN: So why does the contractor get to decide? Maybe the contractor wants to use concrete. We don't want them to. We're paying for --

MS. PATENAUDE: We don't think it's a -- CalTrans uses a competitive bid process. And at first you're going to have contractors that are concerned because they

haven't used it. And then they'll lose the bid because somebody else is going to come in 10 percent lower on their bid.

COMMITTEE MEMBER MIGDEN: So just like all things in government, it will be the cheaper bid, the --

MS. PATENAUDE: Exactly. And that's why -- in all the programs that we have really worked on over the last ten years we've tried to go with items that not only solved an engineering problem, but were also very cost effective and environmentally sound. So this is just the best of both worlds. We're going to use a lot of tires and ultimately save energy -- I mean save money over a current technology.

COMMITTEE MEMBER MIGDEN: Yes, no question if we get CalTrans to then commit, do it this way. Then we shall realize those savings in that environmentally sustainable approach.

MS. PATENAUDE: Exactly.

COMMITTEE MEMBER MIGDEN: So we're going to monitor them. It's a year out or so. I mean in a way, you know, how are we doing with these split dual decisions?

MS. PATENAUDE: Right. And they understand the savings of this and we're working with them. They're excited about this. And we hope by the end of this year,

we have an agreed-upon design and we're implementing an actual test wall using the new material.

COMMITTEE MEMBER MIGDEN: Great.

Thank you.

ACTING CHAIRPERSON LAIRD: I just had one global question. And, that is, is that when Escutia bill was passed or when really there was an idea that we would move at tires, there was sort of this huge backlog of waste tires that had accumulated around the state and then there's the annual amount that is just generated every year as tires are switched out.

As we've moved, whether it's the aggregate in the road or whether it's the retaining walls, where are we against where we'll be when we finally just get to having cleaned up tires and just are in trying to deal with what's generated annually every year in switching out?

Is it that we've created enough to just handle that? We still have a lot more to go? We did a lot of things to deal with the backlog and now that's gone? Where trend-wise are we in that?

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Your timing is almost unbelievable. We have a workshop later this month, on April 27th, where we're going to present a market analysis by one of our contractors, R.W. Beck, and there'll be a lot of information that -- it will be posted

in the next week or so on market trends.

I mean the bottom line is that there's still 10, 11, 12 million tires a year that are being generated and going into landfills. So we have not sufficiently grown the markets to use all those tires.

These kinds of efforts, you know, and many of our grant programs and the like, are oriented towards that. But we've still got a long ways to go before we have truly sustainable markets that are going to use most of the tires.

ACTING CHAIRPERSON LAIRD: Thank you.

And, you see, the thing that was really interesting is when you go through some of the specific projects, you're thinking this one project in one locality in California - and whatever that number was - it uses 470,000 tires. So, you know, you can't have a lot of projects like that if you're using that volume of tires. And so that was sort of just part of what generated the question.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: And you find that it's these kinds of projects that you need to do and replicate to convince officials and public works and engineers up and down the state that, yeah, it works, it's got long-term savings, it's got long-term performance benefits. And so, you know, I think that Stacey's work

and, you know, a lot of other folks have brought this now to the point where we're seeing the potential for large projects, you know, to come on line.

ACTING CHAIRPERSON LAIRD: Did I hear a motion?

COMMITTEE MEMBER MIGDEN: Yes, you did, sir.

ACTING CHAIRPERSON LAIRD: And it was on Resolution 2009-46?

COMMITTEE MEMBER MIGDEN: Exactly as worded.

ACTING CHAIRPERSON LAIRD: And I seconded it.

So would you call the roll.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Chair Laird?

ACTING CHAIRPERSON LAIRD: Aye.

That carries by a vote that once again will allow the Executive Director to make a deduction about the way the Board feels.

(Laughter.)

ACTING CHAIRPERSON LAIRD: We'll move to Board Item 16, Committee Agenda Item H, Consideration of Scope of Work and Contractor for the Rubberized Asphalt Concrete Technology Center.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Thank you.

You know, historically we have had a contract in

place for both a northern California technology center and also a southern California technology center. But at this time, our previous contractor in the north, which was Sacramento County, hasn't been able to continue operating the northern center, and we haven't had a -- been able to find a viable northern alternative. So as a result, we're proposing that L.A. County not only continue to function for the southern technology center, but at least take over the statewide services in the interim until we can get a northern California contractor.

But for the formal presentation, I'd like to turn it over to Nate Gauff.

MR. GAUFF: Good afternoon. I'm Nate Gauff with the Sustainability program.

I want to give you a little brief history on the rubberized asphalt concrete technology centers, and then talk a little bit about the scope.

The effort with the technology centers started back in 1997 with Los Angeles County. One of their staff people was actually a retired annuitant. Given their history of use of the material, they seemed to be an appropriate advocate for the Board -- to partner with the Board to go out and work with other local agencies.

We entered into an agreement to actually have them provide outreach to other agencies on the use of

rubberized asphalt and also provide some technical assistance.

They continued -- once again, they operated a statewide center from 1997 to 2000. In 2000 we did split and utilize the services of Sacramento County. So basically L.A. County handled everything south of the Tehachapis. That arrangement continued on until mid-2005, at which time we did actually revamp the delivery of the technology center services to a private contractor, with assistance from the technology centers in that effort.

The reason we retained the technology centers when we did hire the private contractor is we didn't want to lose the local-government-talking-to-local-government aspect of the program, which through an evaluation report that we had done previously, you know, that was one of the beneficial aspects of the program in that they could share war stories, so to speak, but also some "how to" on how to do it at the local level, where a private contractor wouldn't be able to share that.

As Howard mentioned, we had the two centers until just recently when Sacramento County opted out of the program mainly because they lost their champion, their top engineer, and that was the main advocate for rubberized asphalt, he actually went into private industry. But we do want to retain L.A. County as a contractor. They are

very well respected in the industry, with industry. They're very well respected obviously in their local area and statewide.

So that's a little bit about the history.

As far as the scope of work is concerned, it's pretty consistent with what we have right now. And once again, the technology center plays more of a subordinate role to our private contractor, which is MACTEC Engineering and Consulting.

We did actually expand their role -- well, we planned on expanding the role with L.A. County to possibly include doing some studies. You heard earlier in the commodities presentation about the warm mix asphalt. We feel that has a lot of promise. And we would like to use L.A. County possibly as a guinea pig, so to speak, to help look at some of the issues that might be encountered in implementing that technology at the local level.

So those are the things that we want to accomplish with the scope of work, in addition to their normal technology transfer assistance that they've given us.

So with that, that concludes my presentation. And I recommend that you adopt Resolution 2009-47.

ACTING CHAIRPERSON LAIRD: I just have one question.

I think this was very self-explanatory. It's a contractor we want to continue. This is a good thing. And so I have no trouble with the recommendation in the item. But is it the idea that because Sacramento went away and because nobody else stepped forward, that going forward we would just assume that this contractor would be the contractor for the State, or would we be open if a contractor in northern California -- or some entity in northern California that was appropriate emerged, would we be open to having a second one again?

MR. GAUFF: We are actually -- and we are open. We are actually -- I've talked to a couple agencies that were recommended. Contra Costa County has a possible operator for our northern center, and also Sonoma County. We have been in preliminary discussions with both entities.

From a staff's standpoint, what we want to do is make sure they have the right qualifications so that they will be able to represent the Board properly.

So we are continuing to talk with those two entities right now. And we'll continue to investigate other agencies that might be able to provide the services and also might even want to partner with the Board.

ACTING CHAIRPERSON LAIRD: Thank you. I think that's a good direction.

Any other --

COMMITTEE MEMBER MIGDEN: So moved.

ACTING CHAIRPERSON LAIRD: A motion on the Resolution 2009-47.

I will second it.

Would you please call the roll.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Chair Laird?

ACTING CHAIRPERSON LAIRD: Aye.

Thank you.

And we'll move on to Committee Item I, Board Item 17. It's the first of two revolving loan items having to do with Recycling Market Development.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Thank you, Mr. Chair.

I'm going to have Govindan Viswanathan of our staff make the formal presentations for both of these items.

I do want to just for the record point out for Item 17, which is the loan for a Tri-C Manufacturing -- a number of folks have the phrase "Tri-C" in their heads, and I want to for the record indicate that this is a different entity than the company known as Tri-C Tire Recycling, which has been subject to Board enforcement

actions, so that there's no confusion.

ACTING CHAIRPERSON LAIRD: I think we and the proposed contractor appreciate that clarification.

(Laughter.)

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: I imagine so.

ACTING CHAIRPERSON LAIRD: And did I understand that while these are separate items, you're going to present them together and then we take action separate? Or you just want to go one right after another?

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON:

(Nods head.)

ACTING CHAIRPERSON LAIRD: Okay. Then let's go with the first one.

MR. VISWANATHAN: And good afternoon, Chair. For the record, I'm Govindan Viswanathan with the RMDZ Loan Program.

Tri-C manufacturing, Inc., has requested a 1.5 million RMDZ loan to finance the purchase of equipment and build leasehold improvements. The fund will be used for expansion of the recently started tire recycling operation in West Sacramento.

This City of West Sacramento is in Yolo County and within the Sacramento Regional RMDZ.

Tri-C manufacturing is projecting to add at least

20 employees and divert 15,600 tons per year of California waste tires as a result of this loan.

Tri-C Manufacturing plans to shred and grind waste tires to produce tire-derived aggregate and crumb rubber.

The crumb rubber is sold to manufacturers of tire-derived products such as door mats, flooring products, roof patch, dock bumpers, and can be used for tool based, such as rubberized asphalt concrete.

Tri-C in fact made its first truckload of tire-derived aggregate early this month.

Loan Committee met on April 2nd, 2009, and approved this loan.

Staff recommends that the Board approve Option No. 1 and adopt Resolution No. 2009-50 to approve RMDZ loan to Tri-C Manufacturing, Inc., in the amount of 1,500,000.

Mr. Clyde Lamar, Chairman and President, and Michael of Tri-C Manufacturing are here to answer any questions.

That concludes my presentation.

ACTING CHAIRPERSON LAIRD: Thank you.

And this seems fairly straightforward to me.

COMMITTEE MEMBER MIGDEN: So moved.

ACTING CHAIRPERSON LAIRD: There's a motion on

Resolution 2009-50.

Any final comments?

I'll second it before we move to a vote.

Then would you call the roll please.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Chair Laird?

ACTING CHAIRPERSON LAIRD: Aye.

That motion carries.

And I thank you for that.

We will move on to --

MR. VISWANATHAN: Thank you.

ACTING CHAIRPERSON LAIRD: -- Committee Item J, Board Item 18, a similar Revolving Loan Program application for Pre Plastics, Inc.

MR. VISWANATHAN: Thank you again, Chair and members.

Pre Plastics, Inc., has requested an RMDZ loan of 1,427,000 for the purchase of equipment, leasehold improvements, and working capital.

Pre Plastics needs the funding for the expansion of their plastic recycling operation in Auburn, California. The project consists of making all plastic spacer supports, also known as chairs, for holding steel rebars that are used in tilt-up, precast, or

poured-in-place concrete decks.

The support makes rebar installation easy. They are made to order with the required strength and stability to -- by specifications.

The plastic support again is made from recycled PET flakes resins that are made from post-consumer PET plastic bottles.

The proposed project is expected to assist in the diversion of plastic waste from the landfills by approximately 500 tons per year and create six additional jobs.

Pre Plastics is located in the City of Auburn, Placer County, and within the Placer County RMDZ.

The Loan Committee approved the loan on April 2nd, 2009.

Staff recommends that the Board approve Option No. 1 and adopt Resolution No. 2009-51, to approve RMDZ loan to Pre Plastics, Inc., in the amount of 1,427,000.

Mr. Rich Miller, President, Pre Plastics, is here to answer any questions that the Committee may have.

And by the way, Mr. Miller also is a graduate from the Chico State.

(Laughter.)

ACTING CHAIRPERSON LAIRD: From a slightly different, as Ms. Migden was saying earlier, party school

era than the current graduate students?

MR. VISWANATHAN: And Chico is coming up, yeah.

(Laughter.)

ACTING CHAIRPERSON LAIRD: Well, thank you. That's great.

Any questions?

COMMITTEE MEMBER MIGDEN: I want to make the motion but also comment, that we do fairly well, Mr. Chairman, it seems in issuing these loans and being paid back. We should maybe continue a new Citibank or perhaps redirect. The nation could use the acumen that's assembled in this room. And I -- sir, I'm sorry I don't know your name. But I've got pointed out to me that you're our banker.

MR. LaTANNER: Jim LaTanner.

COMMITTEE MEMBER MIGDEN: Yeah, you're our banker.

And you look out of central casting.

(Laughter.)

COMMITTEE MEMBER MIGDEN: I like the look, you see. And really remarkably, we've achieved, it seems, very good return on loans. And I just whispered to my assistant that we do a whole big financial evaluation before we make loans and it's held us in good stead.

So I'm impressed with that.

Thank you.

SUSTAINABILITY PROGRAM DIRECTOR LEVENSON: Just so you know, that's Jim LaTanner, and he does supervise our Loan Section.

And we do have a very rigorous process. Govindan mentioned the Loan Committee. That's a group of private and I think some public sector banking officials and investment officials who vet the loan and confidential financial information before we even bring it to you. So it is a good process.

That doesn't mean we don't have a few problems. But we have a pretty darn good track record.

COMMITTEE MEMBER MIGDEN: That's what it seems.

ACTING CHAIRPERSON LAIRD: And that was a motion.

COMMITTEE MEMBER MIGDEN: Motion.

ACTING CHAIRPERSON LAIRD: And I'll second Resolution 2009-51 and just echo Ms. Migden's comments and hope that -- I think we're successful because it's tire-derived and not tire derivatives. If that was the case, we'd be under the table.

Please call the roll.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Chair Laird?

ACTING CHAIRPERSON LAIRD: Aye.

Another unanimous vote.

So we will move to Item No. 19.

And I know the last two items - Item No. 19 of the Board agenda, Item K on the Committee agenda - are outreach and education items. And they both relate to tire.

This one -- the first one is an outreach and education campaign to promote the use of tire-derived products.

Mr. Myers. Welcome.

ASSISTANT DIRECTOR MYERS: Thank you, Chair Laird. Good afternoon.

Jon Myers, Office of Public Affairs. I'll try to make this very brief.

And for those that have heard me present items before, you know I speak really fast. So I'm sure we'll make the 3 o'clock deadline.

Item 19, Committee Item K, is for your consideration for a contractor for an Outreach and Education Campaign to Promote the Use of Tire-Derived Products, also better known as our Green Roads Campaign.

This campaign is designed to promote benefits and use of tire-derived products such as tire-derived aggregate and rubberized asphalt concrete.

Some brief background on the campaign. It's

designed to take two tracks. First, much like our first Green Roads Campaign from 2005 to 2007, we will be conducting outreach to local jurisdictions' elected officials and decision makers through face-to-face meetings to educate them on the benefits of these materials and the Board's ability to provide assistance in the use of these items.

Unlike our previous green roads efforts, however, the Board's Local Assistance and Market Development Division will be leading the effort to meet with the local elected's; and with the support of our selected contractor, will be setting up the meetings and conduct them. And our hope is that we can engage the Board members into these meetings as well.

Another big difference from our previous efforts will be the outreach to the general public on rubberized asphalt concrete. Our goal is to create a buzz about RAC as we meet with the local jurisdictions and look to generate interest, and more so, advocacy to implement RAC use at the local level as well as statewide.

Together these two tracks will work in coordinated fashion to reach selected audiences and ideally bring them together on moving forward RAC and TDA projects.

The scope of work for this current campaign was

approved by the Board in September of last year. Following the approval of the scope of work, staff prepared a Request For Proposal to go out to solicit bidders.

I'd be happy to go into further detail on the previous campaign or the scope of work if you should have any questions on that.

In December of last year staff came before the Market Development Committee with recommendations for a contractor. However, protests were filed by other proposers regarding cost scoring processes, and the Board asked staff to examine the scoring process and to rebid the contract, which brings us back to Committee here today.

Based upon this direction from the Board, staff made a number of clarifications to the RFP. Requirements were clarified, the cost proposal sheets were revised to reflect those changes, and the scoring sheet for evaluating the proposals was modified to ensure that the required information was appropriately scored.

Through these revisions and new language that better clarifies what is required of the proposers, we have created a better process and are secure in our selection.

As for the process, the Contracts unit reviewed

all the proposals for completeness and to make certain that all the technical requirements of the RFP were met. Those proposals deemed not complete or did not comply with the requirements of the RFP were disqualified.

For this contract solicitation, seven proposals were received, four of the proposals were disqualified. Two of the disqualified failed to meet Disabled Veteran Business Enterprise or small business participation level requirements or to show good faith efforts.

In addition, one of those proposers neglected to sign its proposal under penalty of perjury.

The other two proposals were disqualified for incomplete cost proposal sheets, leaving out information that was required, which was necessary for the scoring proposals -- for scoring their proposals.

The three remaining proposals then went through the scoring process by the Selection Committee. A final selection was made. And I'm happy to announce Katz & Associates was the highest scored proposal.

Therefore, staff recommends Katz & Associates as contractor for the outreach and education campaign to promote the use of tire-derived products and adopt Resolution 2009-57 revised.

COMMITTEE MEMBER MIGDEN: So moved.

ACTING CHAIRPERSON LAIRD: Second.

And I have one question -- a comment and a question.

The comment is is that, just given what happened at that December meeting, I know that you walked through this meticulously, and I just appreciate that. And I know it was extra time and I know it was extra effort. But it's transparent and it's clear, and that's a very good thing.

My question is -- ironically because of that, this item has spent so much time looking backwards, that we're about to enter into this contract and go forward. And what are the benchmarks, how are you going to make sure now that we're looking forward, that you're checking in on a regular basis and that this is moving ahead on a regular basis and that we're on top of it as we go forward?

ASSISTANT DIRECTOR MYERS: The scope of work for the contract actually does call for those benchmarks, and it actually calls for the contractor to come back with regular reports, both to the contract manager, which I should introduce -- Beatriz Sandoval, who's sitting up here in the front row, who's going to be acting as contract manager for this and the next item that's coming up. So those will be regular updates, and she'll be working with the contractor on a regular basis as well.

-- but also to report back to the Board periodically. So we will be bringing the contractor in front of the Board and making reports on updates where we stand and future effort's going to be made by the campaign.

ACTING CHAIRPERSON LAIRD: Thank you.

Any further questions?

Can we call the roll please.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Board Member Laird?

ACTING CHAIRPERSON LAIRD: Aye.

That resolution passes unanimously.

We'll move to the last item on the agenda, which is Committee Item L, Board Item 20, Consideration of a Contractor for Outreach and Education Campaign to Promote Sustainable Tire Practices.

ASSISTANT DIRECTOR MYERS: All right. And Jon Myers again. Happy to close up or end up the day for you here.

Item 20, Committee Item L.

ACTING CHAIRPERSON LAIRD: Very optimistic.

(Laughter.)

ACTING CHAIRPERSON LAIRD: It's okay. You said you were secure in the last --

ASSISTANT DIRECTOR MYERS: And that is our recommendation and --

(Laughter.)

ASSISTANT DIRECTOR MYERS: Wow. He called me on that.

(Laughter.)

ASSISTANT DIRECTOR MYERS: Thanks, now that you made nervous moving forward now.

Item 20, Committee Item L, is for the consideration of a Contractor for an Outreach and Education Campaign to Promote Sustainable Tire Practices.

Essentially this is our tire sustainability campaign, whose primarily goal is to get California drivers and consumers to check their tire pressure on a regular basis, with the bigger goal of eliminating waste tires from getting into the plan for landfills or illegal disposal sites.

Some brief background on this campaign. We first launched a Board-approved tire sustainability outreach campaign in 2006. Ogilvy Public Relations was our selected contractor for a two-year pilot effort targeting the Bay AREA and Fresno markets.

This effort concentrated on conducting outreach in three languages: Mandarin, Spanish and English.

The campaign conducted some great research and

developed materials that will be well served in larger efforts. Overall we had good success with the campaign.

In August 2008 the Board approved a new scope of work to conduct a statewide effort that utilizes partnerships with other stakeholders and State agencies.

Again, I'd be happy to elaborate on any details of that scope -- of this scope of work or the previous campaign.

After the approved scope of work, staff prepared Request for Proposals, but ultimately rebid the contract based on the direction given to the Green Roads effort to re-examine the scoring process.

As with Green Roads contracts, staff made a number of clarifications to the RFP, requirements that were again clarified, the cost proposal sheets were revised to reflect those changes, and the scoring sheets for evaluating the proposals were modified to ensure that the required information was appropriately scored.

Again, Contracts Unit reviewed all the proposals for completeness and to make certain that all the technical requirements of the RFP were met. Those proposals deemed not complete or did not comply with the requirements of the RFP were disqualified.

For this contract solicitation eight proposals were received. Four of the proposals were disqualified

for not meeting requirements detailed in the RFP.

Two of the proposals failed to meet the Disabled Veterans Business Enterprise or a small business participation level requirements or to show good faith efforts.

And two were disqualified for incomplete cost proposal sheets, leaving out information that was required and which was necessary for scoring the proposals.

The four remaining proposals then went through the scoring process by the Selection Committee. After careful review of the proposals and in accordance with the requirements of the RFP, the Selection Committee determined Edelman Public Relations rated the highest proposer. Therefore, staff recommends Edelman Public Relations as contractor for the outreach and education campaign to promote sustainable tire practices and to adopt Resolution 2009-58.

ACTING CHAIRPERSON LAIRD: Thank you.

COMMITTEE MEMBER MIGDEN: I just have one question.

How are the Edelmans going to get me to check my pressure?

ASSISTANT DIRECTOR MYERS: That's a good question.

ACTING CHAIRPERSON LAIRD: Over to you, Mr.

Myers.

(Laughter.)

COMMITTEE MEMBER MIGDEN: It's going to maybe be a cheaper way.

I so move. I'll withdrawal the question.

ACTING CHAIRPERSON LAIRD: Second.

ASSISTANT DIRECTOR MYERS: I have an answer.

ACTING CHAIRPERSON LAIRD: I don't know if we saved you or not.

(Laughter.)

ACTING CHAIRPERSON LAIRD: But it's Resolution 2009-58.

And I would just comment, the same thing that I commented on in the last item is true with this one. I noticed you said Ms. Sandoval's going to be in this, since managing both contracts. And it will just be good to see how those benchmarks are met going forward.

ASSISTANT DIRECTOR MYERS: Certainly.

ACTING CHAIRPERSON LAIRD: So will you please call the roll.

EXECUTIVE ASSISTANT GIN: Migden?

COMMITTEE MEMBER MIGDEN: Aye.

EXECUTIVE ASSISTANT GIN: Chair Laird?

ACTING CHAIRPERSON LAIRD: Aye.

That resolution carries.

We complete the agenda.

And I think people were just so thrilled with the direction, that there were no requests to speak. And everything was unanimous. And Mr. Leary can make deductions about that.

Thank you for bearing with us. We'll stand --

COMMITTEE MEMBER MIGDEN: Nice job, Mr. Chair.

ACTING CHAIRPERSON LAIRD: You're welcome.

COMMITTEE MEMBER MIGDEN: We'll join in appreciation. Thank you.

ACTING CHAIRPERSON LAIRD: We'll stand adjourned.

(Thereupon the California Integrated Waste Management Board, Market Development and Sustainability Committee meeting adjourned at 2:57 p.m.)

CERTIFICATE OF REPORTER

I, JAMES F. PETERS, a Certified Shorthand Reporter of the State of California, and Registered Professional Reporter, do hereby certify:

That I am a disinterested person herein; that the foregoing California Integrated Waste Management Board, Market Development and Sustainability Committee meeting was reported in shorthand by me, James F. Peters, a Certified Shorthand Reporter of the State of California, and thereafter transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said meeting nor in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 1st day of May, 2009.

JAMES F. PETERS, CSR, RPR
Certified Shorthand Reporter
License No. 10063